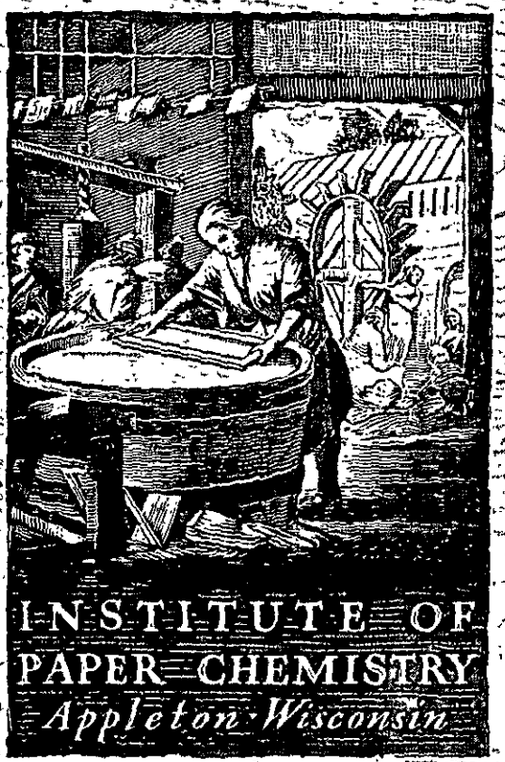


CONTINUOUS BASELINE STUDY

Project 1108-B

Progress Report 49

to

FOURDRINIER KRAFT BOARD INSTITUTE

August 1, 1951

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

Project 1108-B

Progress Report 49

to

FOURDRINIER KRAFT BOARD INSTITUTE

August 1, 1951

THE INSTITUTE OF PAPER CHEMISTRY

APPLETON, WISCONSIN

In conjunction with the F.K.I. Continuous Baseline Study, eighty-four different sample lots of 42-lb. Fourdrinier kraft linerboard were submitted by twelve different F.K.I. mills to The Institute of Paper Chemistry for testing during the period July 1 through July 31. In addition to the 42-lb. kraft linerboard, five samples of special drum stock were also submitted for evaluation by one of the participating mills. The results on the special stock are tabulated separately in this report. A tabulation of the number of samples classified according to mill may be seen in Table I.

TABLE I

DISTRIBUTION OF 42-LB] LINERBOARD SAMPLES

Mill Code	Samples Submitted
A	8
B	12
C	4
D	12
E	0
F	9
G	8
H	8
I	5
J	6
K	1
L	1
M	10
	84

These sample lots were tested for basis weight, caliper, bursting strength, G. E. puncture, and Elmendorf tear. The average strength results for each mill may be seen in Table II and are graphically presented in Figures 1 to 6. In addition to a comparison of the mill averages for the various tests, Table II also shows the current F.K.I. averages, the cumulative F.K.I. averages, and the F.K.I. indexes. The cumulative F.K.I. average include all the results up to but not including the current period; the current period in the case of this report is July 1 through July 31. The F.K.I. indexes are obtained as follows:

$$\frac{\text{current F.K.I. average}}{\text{cumulative F.K.I. average}} \times 100 = \text{F.K.I. index (\%)}$$

The F.K.I. index provides a ready means of comparing the current quality with previous results. For example, the current F.K.I. average basis weight is 42.8 lb., and the cumulative F.K.I. average basis weight is 43.1 lb. Hence, the index for basis weight determined in per cent as indicated above is 99.3. This signifies that the current average basis weight is lower than the cumulative average, which in this case covered the period from July 25, 1947, through June 30, 1951.

A comparison of the results in Table II and Figure 1 shows that the average basis weight results for all the mills conform to the 42-lb. specification set forth in Rule 41. Mill B has the highest average basis weight, it being 43.7 lb. or approximately 4.0% higher than the 42-lb. specification. On the other hand, Mill C has the lowest average basis weight, it being 42.1 lb., 0.2% higher than the 42-lb. specification.

The amount by which the mills exceed the 42-lb. specification is as follows:

Mill Code	Per Cent
A	2.1
B	4.0
C	0.2
D	1.9
E	--
F	2.9
G	1.2
H	1.4
I	2.1
J	1.9
K	0.5
L	1.4
M	2.4

A comparison of the average basis weight data for the previous period with the current F.K.I. average indicates that the basis weight results have increased slightly.

A comparison of the average caliper values for the various mills (see Figure 2) shows that the mill averages vary from a low of 12.4 for Mill B to a high of 14.1 for Mill M, the average being 13.3 which is somewhat lower than the cumulative average of 14.2.

The average bursting strength values obtained for each mill are presented graphically in Figure 3. It may be observed that the

average bursting strength values for the various mills range from a low of 95 for Mill K to a high of 113 for Mill D. The current F.K.I. average bursting strength is 104, only slightly lower than the cumulative average of 105.

The data of Table II and Figure 4 show that the average G. E. puncture result for all mills is 35 units. Mill F has the highest G. E. puncture average, 41 units, and Mills B and I have the lowest average, 32 units. The current F.K.I. average for G E. puncture of 35 units is slightly lower than the cumulative F.K.I. average of 37 units.

A graphic comparison of the Elmendorf tear results for the various mills is given in Figures 5 and 6. The data of Table II show that Mills F and M have the highest average machine direction tear value and Mill I the lowest. Mill F has the hig hest average across-machine direction tear value, and Mill G has the lowest value. It may be noted that the current F.K.I. average machine and across-machine direction tear results are lower than the cumulative averages.

A comparison of the F.K.I. indexes indicates that, for the current period, all the current F.K.I. averages are lower than the respective cumulative F.K.I. averages.

In order to compare the variation within a given mill, the test results for each particular mill have been tabulated in Tables III to XV for Mills A to M, respectively. In addition to the current and cumulative averages, the mill factor and mill index are given for each mill. The cumulative mill average is the average test result

obtained on the samples submitted by the particular mill up to, but not including, the current average. The mill factor and the mill index are obtained as follows:

$$\frac{\text{current mill average}}{\text{cumulative mill average}} \times 100 = \text{mill factor (\%)}$$

$$\frac{\text{current mill average}}{\text{cumulative F.K.I. average}} \times 100 = \text{mill index (\%)}$$

The mill factor and the mill index serve as a ready means for comparing the current mill results either with the previous results for that particular mill or with the cumulative F.K.I. results. As the test data accumulate, the factors and indexes acquire added significance. The reports also contain a comparison of the test data obtained at the mills with test data obtained at The Institute of Paper Chemistry.

The results obtained on the special drum stock may be seen in Table XV I.

It may be noted in Tables III through XVI that the data have been separated on the basis of the sheet finish. The summarized results are as follows:

Mill Code	No. of Sample Lots W.F.	D.F.	Misc.
A	8*		
B	12*		
C	4		
D	10	2	
E**	2		3***
F	9		

(Continued on next page)

Mill Code	No. of Sample Lots W.F.	D.F.	Misc.
G	8		
H	8*		
I	5*		
J		6	3****
K			1***
L			1***
M	7	2	1***

* One side only
** Drum linerboard
*** Sheet finish not reported
**** Semi-water finish

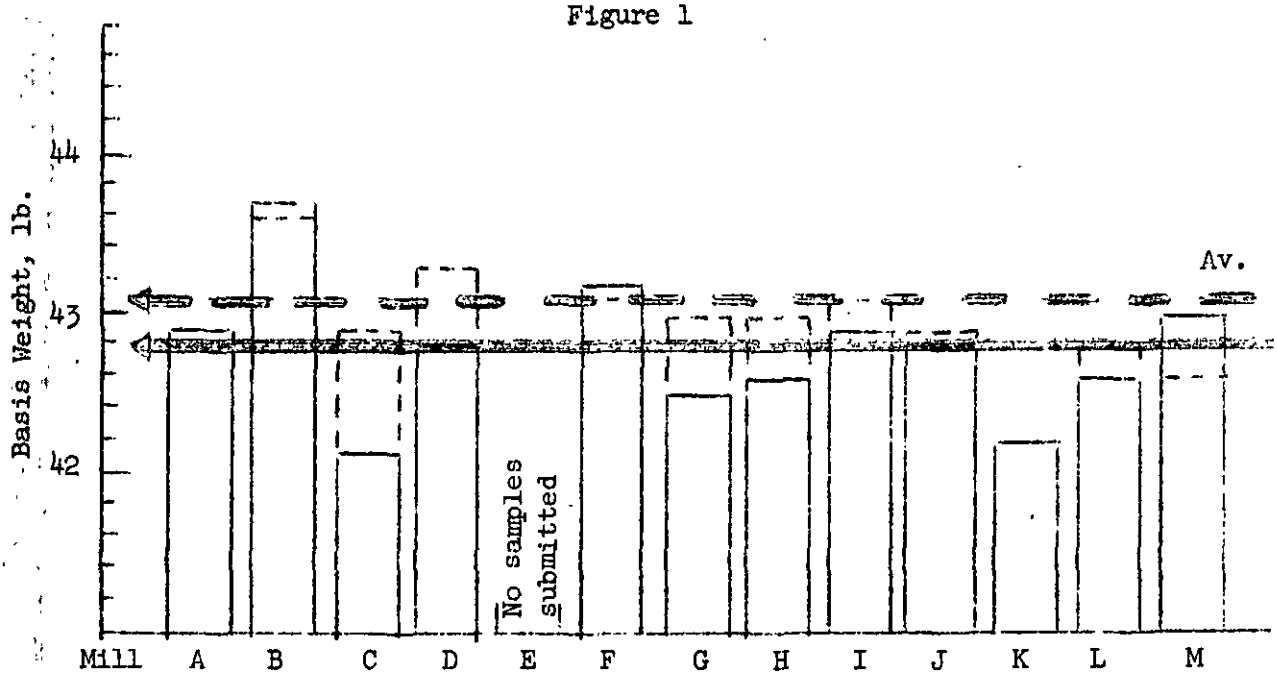
The results indicate that a majority of the mills are using a water finish on their 42-lb. linerboard.

TABLE II

SUMMARY OF COMPOSITE MILL AVERAGES--JULY 1 THROUGH 31, 1951

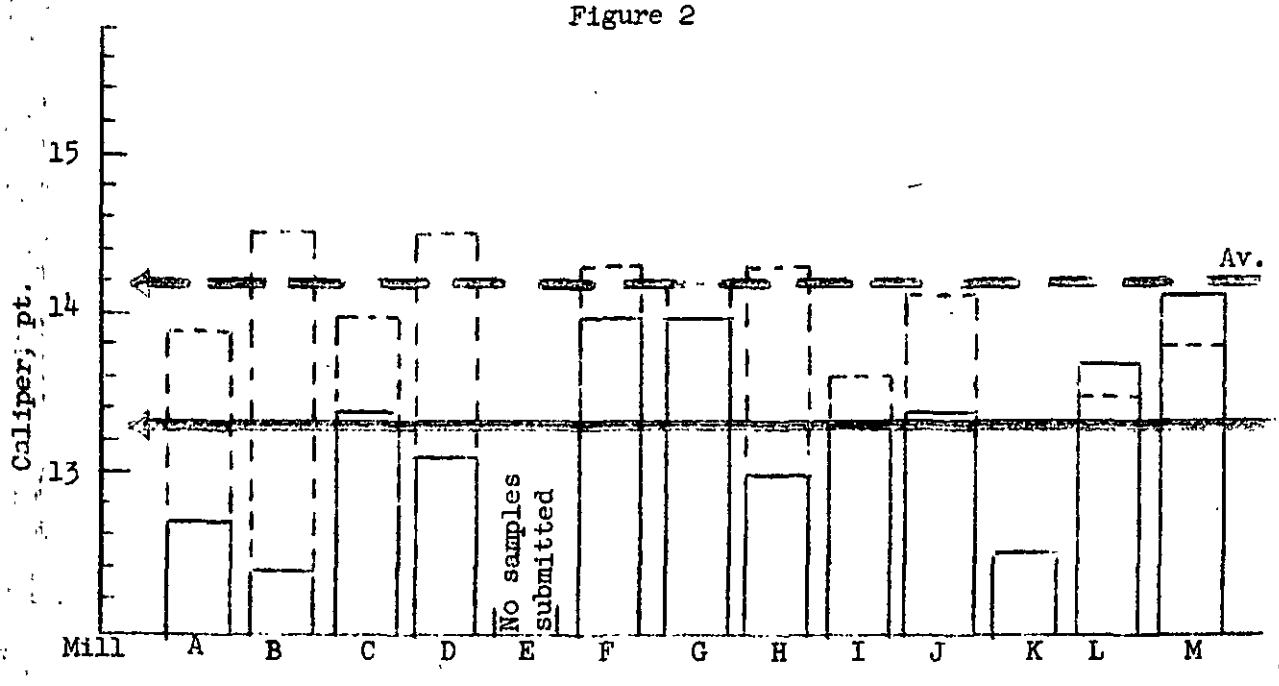
Code No.	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	G. E. Puncture, units	Elmendorf Tear, g./sheet In Direction	Elmendorf Tear, g./sheet Across Direction
A	42.9	12.7	112	34	367	401
B	43.7	12.4	105	32	346	375
C	42.1	13.4	105	35	344	388
D	42.8	13.1	113	38	391	423
E	No samples submitted.					
F	43.2	14.0	109	41	397	437
G	42.5	14.0	104	34	336	361
H	42.6	13.0	101	34	365	396
I	42.9	13.3	104	32	326	376
J	42.8	13.4	99	33	361	370
K	42.2	12.5	95	36	347	400
L	42.6	13.7	98	35	365	411
M	43.0	14.1	104	38	397	423
Current FKI Average:	42.8	13.3	104	35	362	397
Cumulative FKI Average:	43.1	14.2	105	37	378	411
FKI Index, %:	99.3	93.7	99.0	94.6	95.8	96.6

Figure 1



COMPARISON OF BASIS WEIGHT RESULTS
(Period July 1--July 31)

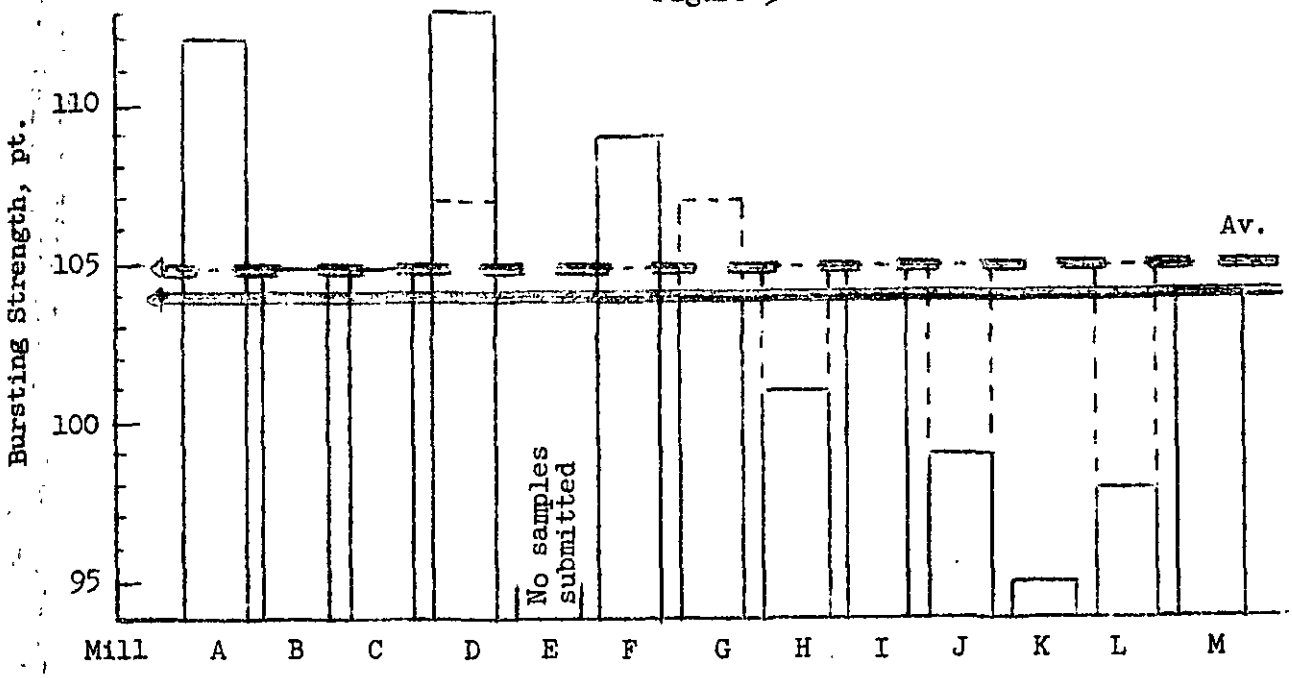
Figure 2



COMPARISON OF CALIPER RESULTS
(Period July 1--July 31)

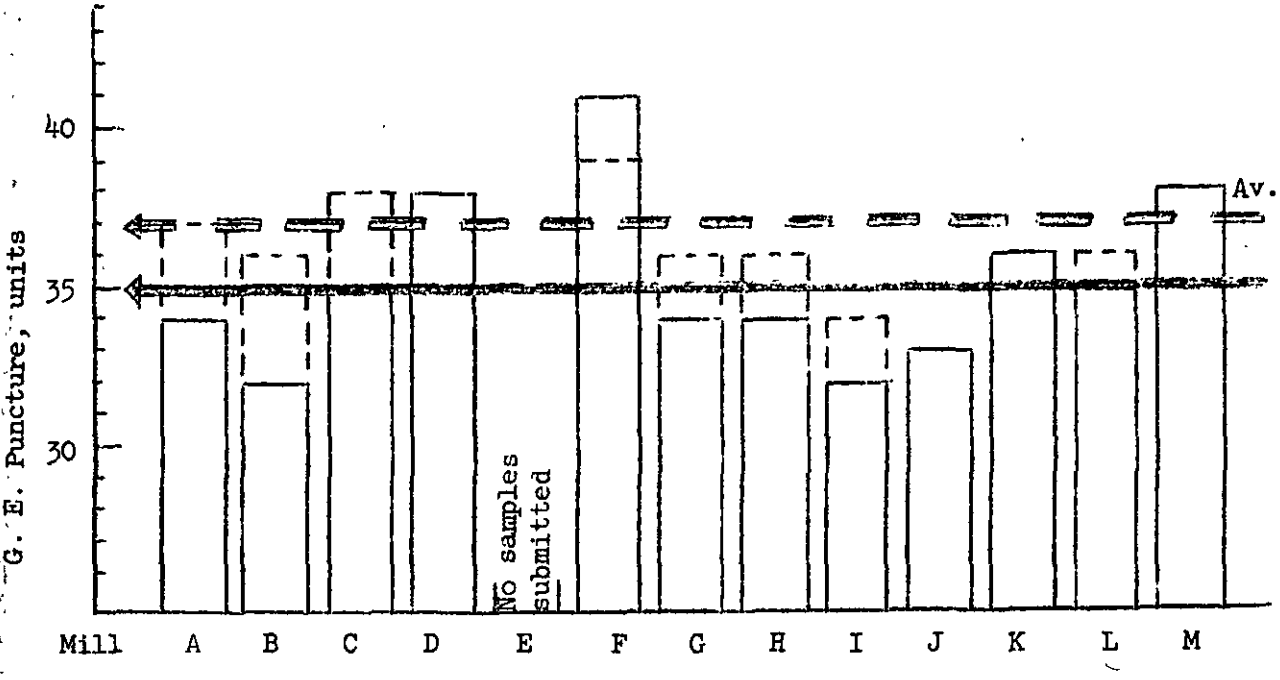
———— Current Mill Average
- - - - - Cumulative Average

Figure 3



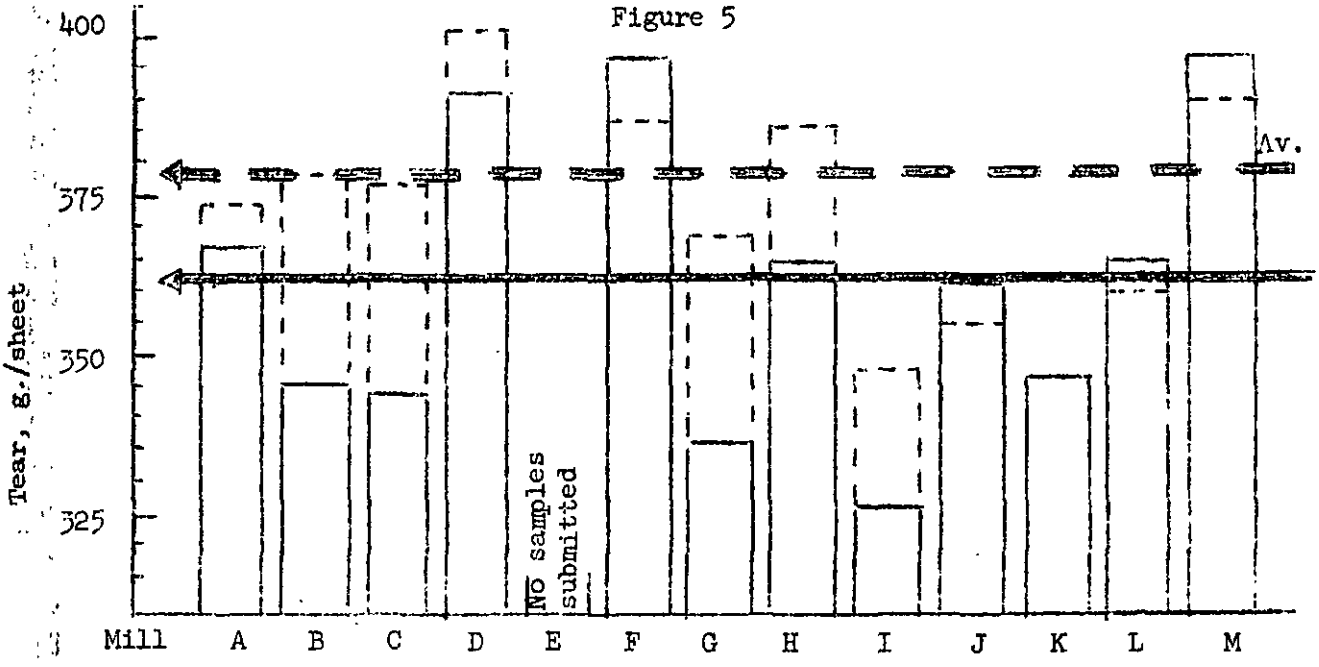
COMPARISON OF BURSTING STRENGTH RESULTS
(Period July 1--July 31)

Figure 4



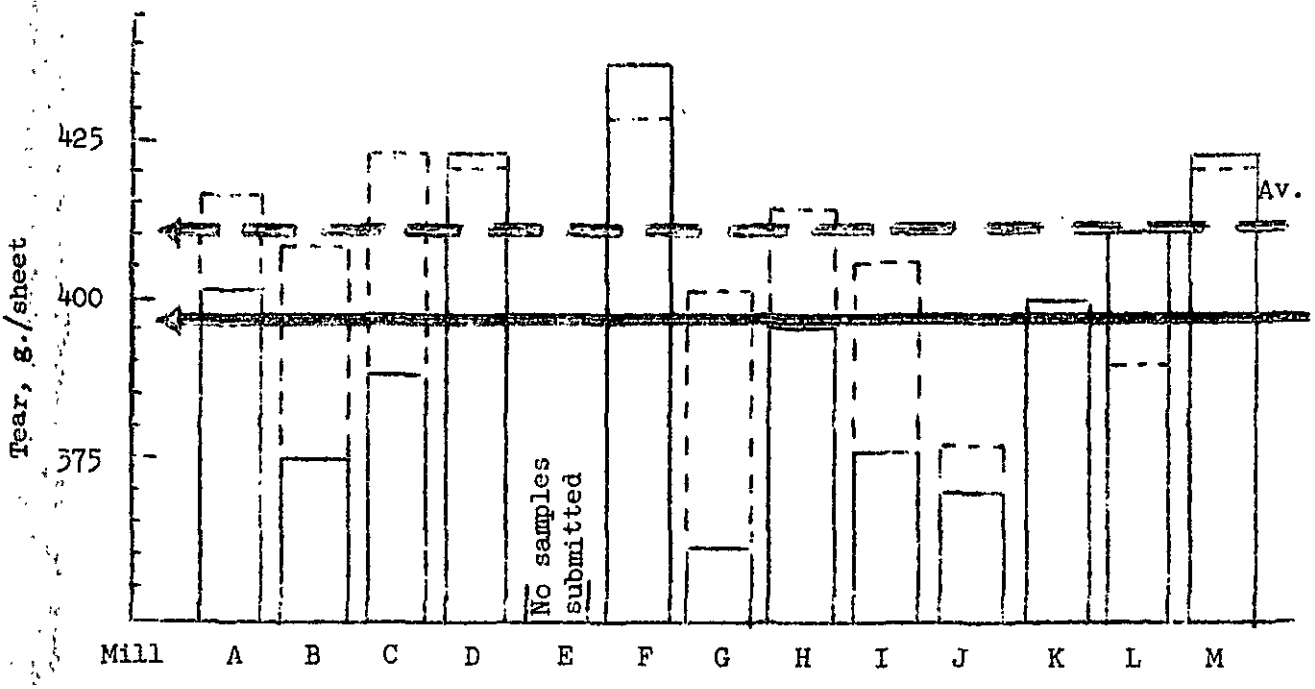
COMPARISON OF G. E. PUNCTURE RESULTS
(Period July 1--July 31)

Figure 5



COMPARISON OF TEAR RESULTS, Machine Direction
(Period July 1--July 31)

Figure 6



COMPARISON OF TEAR RESULTS, Across-machine Direction
(Period July 1--July 31)

TABLE III

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951

Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
														In			Across		
		Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill A--42-lb. Linerboard																			
5/25/51	2	43.8	42.0	42.8	13.0	12.0	12.5	132	80	102	37	32	34	456	288	364[a]	408	352	382[a]
5/25/51	1	44.0	41.0	42.8	13.1	11.5	12.6	136	90	111	36	32	34	384	288	327[a]	424	344	396[a]
7/ 2/51	2	44.0	42.4	43.0	13.5	12.2	12.8	135	87	109	39	31	35	416	336	373	456	368	414[a]
7/ 3/51	1	44.0	42.0	43.1	13.4	12.3	12.9	130	87	108	39	30	36	432	320	382[a]	464	384	418[a]
7/10/51	2	44.0	43.0	43.5	13.7	13.0	13.2	138	78	115	36	31	33	480	328	405[a]	416	344	387[a]
7/11/51	1	43.6	41.8	42.5	13.4	12.2	12.9	141	101	119	36	31	34	384	256	337	448	384	413[a]
7/15/51	2	43.0	42.0	42.4	13.0	11.5	12.2	138	95	114	37	32	34	424	320	374[a]	408	360	391[a]
7/15/51	2	43.8	42.0	42.8	13.2	12.1	12.7	132	98	117	36	30	33	472	336	372[a]	448	352	406[a]
				42.9			12.7			112			34			367			401
				42.8			13.9			105			37			374			416
				100.2			91.4			106.7			91.9			98.1			96.4
				99.5			89.4			106.7			91.9			97.1			97.6

adings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE III

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			E	
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Mi
											Mill A--42-lb. Linerboard								
147122	A-254	WF1S	7/ 2/51	6/25/51	2	43.8	42.0	42.8	13.0	12.0	12.5	132	80	102	37	32	34	456	28
147123	A-255	WF1S	7/ 2/51	6/25/51	1	44.0	41.0	42.8	13.1	11.5	12.6	136	90	111	36	32	34	384	28
147199	A-256	WF1S	7/ 9/51	7/ 2/51	2	44.0	42.4	43.0	13.5	12.2	12.8	135	87	109	39	31	35	416	33
147200	A-257	WF1S	7/ 9/51	7/ 3/51	1	44.0	42.0	43.1	13.4	12.3	12.9	130	87	108	39	30	36	432	32
147345	A-258	WF1S	7/18/51	7/10/51	2	44.0	43.0	43.5	13.7	13.0	13.2	138	78	115	36	31	33	480	32
147346	A-259	WF1S	7/18/51	7/11/51	1	43.6	41.8	42.5	13.4	12.2	12.9	141	101	119	36	31	34	384	25
147418	A-260	WF1S	7/23/51	7/15/51	2	43.0	42.0	42.4	13.0	11.5	12.2	138	95	114	37	32	34	424	32
147486	A-261	WF1S	7/27/51	7/15/51	2	43.8	42.0	42.8	13.2	12.1	12.7	132	98	117	36	30	33	472	33
Current Mill Average:								42.9			12.7			112			34		
Cumulative Mill Average:								42.8			13.9			105			37		
Mill Factor, %:								100.2			91.4			106.7			91.9		
Mill Index, %:								99.5			89.4			106.7			91.9		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE IV

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 through 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
														In			Across		
		Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill B--42-lb. Linerboard																			
6/24/51	1	46.4	43.0	44.4	13.2	12.1	12.8	119	83	103	40	31	34	416	320	363[a]	440	360	390[a]
6/24/51	1	45.8	42.8	44.3	13.3	12.1	12.8	122	82	106	40	31	35	432	296	354	464	352	398[a]
6/24/51	1	46.4	43.8	44.6	13.5	12.0	12.6	120	85	100	38	32	35	416	304	357	448	344	398[a]
6/24/51	1	45.8	42.4	44.3	13.1	12.1	12.6	113	80	97	37	29	34	432	296	357	472	336	389[a]
7/ 1/51	1	44.0	42.4	43.6	13.2	10.8	12.0	136	78	108	35	26	31	400	288	339	408	336	375[a]
7/ 1/51	1	44.0	42.0	43.2	13.0	11.0	12.0	118	86	103	34	29	31	384	296	343[a]	448	336	367[a]
7/ 1/51	1	44.0	42.0	43.4	12.8	11.5	12.0	134	94	109	32	26	30	352	288	321	432	336	383[a]
7/ 1/51	1	44.2	42.0	43.1	12.8	11.3	12.0	128	84	107	35	27	30	416	288	341	400	336	364[a]
7/ 8/51	1	45.0	42.0	43.3	13.1	12.0	12.4	120	68	101	33	28	31	416	288	355[a]	432	288	361[a]
7/ 8/51	1	45.0	42.0	43.3	13.3	11.9	12.5	122	85	104	33	28	31	384	296	347	488	312	360[a]
7/ 8/51	1	44.4	42.4	43.4	13.0	11.8	12.5	138	96	111	34	30	32	408	280	334[a]	424	328	355[a]
7/ 8/51	1	44.0	42.0	43.2	12.8	11.8	12.3	120	87	108	33	29	31	416	288	343[a]	408	312	361[a]
				43.7			12.4			105			32			346			375
				43.6			14.5			105			36			378			408
				100.2			85.5			100.0			88.9			91.5			91.9
				101.4			87.3			100.0			86.5			91.5			91.2

adings for one or more specimens which tore beyond the 3/8-inch limit.

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elr In Max.	Elr In Mi
											Mill B--42-lb. Linerboard								
147118	B-431	WF1S	7/ 2/51	6/24/51	1	46.4	43.0	44.4	13.2	12.1	12.8	119	83	103	40	31	34	416	32(
147119	B-432	WF1S	7/ 2/51	6/24/51	1	45.8	42.8	44.3	13.3	12.1	12.8	122	82	106	40	31	35	432	29(
147120	B-433	WF1S	7/ 2/51	6/24/51	1	46.4	43.8	44.6	13.5	12.0	12.6	120	85	100	38	32	35	416	30(
147121	B-434	WF1S	7/ 2/51	6/24/51	1	45.8	42.4	44.3	13.1	12.1	12.6	113	80	97	37	29	34	432	29(
147201	B-435	WF1S	7/ 9/51	7/ 1/51	1	44.0	42.4	43.6	13.2	10.8	12.0	136	78	108	35	26	31	400	28(
147202	B-436	WF1S	7/ 9/51	7/ 1/51	1	44.0	42.0	43.2	13.0	11.0	12.0	118	86	103	34	29	31	384	29(
147206	B-437	WF1S	7/ 9/51	7/ 1/51	1	44.0	42.0	43.4	12.8	11.5	12.0	134	94	109	32	26	30	352	28(
147207	B-438	WF1S	7/ 9/51	7/ 1/51	1	44.2	42.0	43.1	12.8	11.3	12.0	128	84	107	35	27	30	416	28(
147313	B-439	WF1S	7/16/51	7/ 8/51	1	45.0	42.0	43.3	13.1	12.0	12.4	120	68	101	33	28	31	416	28(
147314	B-440	WF1S	7/16/51	7/ 8/51	1	45.0	42.0	43.3	13.3	11.9	12.5	122	85	104	33	28	31	384	29(
147315	B-441	WF1S	7/16/51	7/ 8/51	1	44.4	42.4	43.4	13.0	11.8	12.5	138	96	111	34	30	32	408	28(
147316	B-442	WF1S	7/16/51	7/ 8/51	1	44.0	42.0	43.2	12.8	11.8	12.3	120	87	108	33	29	31	416	28(
Current Mill Average:								43.7			12.4			105			32		
Cumulative Mill Average								43.6			14.5			105			36		
Mill Factor, %:								100.2			85.5			100.0			88.9		
Mill Index, %								101.4			87.3			100.0			86.5		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE V

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
								Mill C--42-lb. Linerboard											
7/10/51	1	44.0	40.4	42.2	13.9	12.8	13.3	132	77	109	38	30	36	408	320	357	496	360	401[a]
7/10/51	1	44.0	40.0	42.0	14.0	13.0	13.4	133	85	109	38	32	36	400	320	353[a]	416	336	375[a]
7/11/51	1	42.2	41.0	41.9	14.5	12.4	13.4	120	80	102	38	33	35	360	288	331	432	352	396[a]
7/11/51	1	43.0	40.8	42.1	13.9	12.8	13.4	128	77	98	39	33	35	416	296	334	416	344	379[a]
				42.1			13.4			105			35			344			388
				42.9			14.0			105			38			377			432
				98.1			95.7			100.0			92.1			91.2			91.7
				97.7			94.4			100.0			94.6			91.0			94.4

readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE V

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units				E
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	
											Mill C--42-lb. Linerboard								
147319	C-291	W.F.	7/16/51	7/10/51	1	44.0	40.4	42.2	13.9	12.8	13.3	132	77	109	38	30	36	408	
147320	C-292	W.F.	7/16/51	7/10/51	1	44.0	40.0	42.0	14.0	13.0	13.4	133	85	109	38	32	36	400	
147417	C-293	W.F.	7/23/51	7/11/51	1	42.2	41.0	41.9	14.5	12.4	13.4	120	80	102	38	33	35	360	
147475	C-294	W.F.	7/25/51	7/11/51	1	43.0	40.8	42.1	13.9	12.8	13.4	128	77	98	39	33	35	416	
Current Mill Average:								42.1			13.4			105			35		
Cumulative Mill Average:								42.9			14.0			105			38		
Mill Factor, %:								98.1			95.7			100.0			92.1		
Mill Index, %								97.7			94.4			100.0			94.6		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE VI

SUPPLY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill D--42-lb. Linerboard																			
7/ 2/51	4	46.0	43.0	44.4	14.1	13.0	13.8	137	81	108	44	37	40	512	352	415[a]	456	368	413[a]
7/ 9/51	4	43.0	41.0	42.1	13.2	12.0	12.5	137	86	117	38	32	35	432	320	366[a]	464	336	408[a]
7/10/51	4	47.8	43.0	44.4	14.0	12.8	13.3	141	100	118	46	38	42	448	368	399	488	368	433[a]
7/11/51	4	44.2	40.2	42.4	13.8	12.0	12.9	123	83	105	42	34	39	448	368	392[a]	464	376	413[a]
7/12/51	4	44.2	41.4	43.0	13.1	12.2	12.8	135	95	114	39	33	36	384	336	358[a]	464	344	399[a]
7/19/51	4	44.0	41.4	42.5	14.0	11.9	13.0	133	80	110	39	34	36	456	336	358[a]	480	384	427[a]
7/20/51	4	44.4	41.0	42.6	13.1	10.9	12.2	137	90	118	39	32	36	432	336	375[a]	512	416	443[a]
7/22/51	4	44.0	41.0	41.9	13.0	11.7	12.3	132	95	117	38	33	36	432	328	391[a]	480	384	431[a]
7/23/51	4	43.0	41.0	42.0	14.0	12.4	13.2	140	83	113	40	31	37	432	336	378[a]	496	344	399[a]
7/24/51	4	44.0	41.2	42.6	14.5	12.4	13.0	138	75	110	41	35	37	488	352	407[a]	464	352	422[a]
7/28/51	4	44.0	41.4	42.9	15.2	13.0	14.0	144	92	115	45	38	41	448	360	404[a]	520	400	459[a]
7/29/51	4	46.4	41.6	43.3	14.9	12.6	13.7	137	83	110	45	38	41	472	368	416[a]	528	360	435[a]
				42.8			13.1			113			38			391			423
				43.3			14.5			107			38			401			421
				98.8			90.3			105.6			100.0			97.5			100.5
				99.3			92.3			107.6			102.7			103.4			102.9

TABLE VII

Mill E--42-lb. Linerboard

No samples submitted.

[a]adings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE VI

SUPPLY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (*continued*)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	F Max.	F Mi
Mill D--42-lb. Linerboard																			
147177	D-415	W.F.	7/ 5/51	7/ 2/51	4	46.0	43.0	44.4	14.1	13.0	13.8	137	81	108	44	37	40	512	35
147323	D-416	W.F.	7/16/51	7/ 9/51	4	43.0	41.0	42.1	13.2	12.0	12.5	137	86	117	38	32	35	432	32
147280	D-417	W.F.	7/12/51	7/10/51	4	47.8	43.0	44.4	14.0	12.8	13.3	141	100	118	46	38	42	448	36
147279	D-418	W.F.	7/13/51	7/11/51	4	44.2	40.2	42.4	13.8	12.0	12.9	123	83	105	42	34	39	448	36
147324	D-419	W.F.	7/16/51	7/12/51	4	44.2	41.4	43.0	13.1	12.2	12.8	135	95	114	39	33	36	384	33
147420	D-420	W.F.	7/23/51	7/19/51	4	44.0	41.4	42.5	14.0	11.9	13.0	133	80	110	39	34	36	456	33
147430	D-421	W.F.	7/24/51	7/20/51	4	44.4	41.0	42.6	13.1	10.9	12.2	137	90	118	39	32	36	432	33
147431	D-422	W.F.	7/24/51	7/22/51	4	44.0	41.0	41.9	13.0	11.7	12.3	132	95	117	38	33	36	432	32
147474	D-423	W.F.	7/24/51	7/23/51	4	43.0	41.0	42.0	14.0	12.4	13.2	140	83	113	40	31	37	432	33
147532	D-424	W.F.	7/30/51	7/24/51	4	44.0	41.2	42.6	14.5	12.4	13.0	138	75	110	41	35	37	488	35
147542	D-425	D.F.	7/31/51	7/28/51	4	44.0	41.4	42.9	15.2	13.0	14.0	144	92	115	45	38	41	448	36
147543	D-426	D.F.	7/31/51	7/29/51	4	46.4	41.6	43.3	14.9	12.6	13.7	137	83	110	45	38	41	472	36
Current Mill Average:								42.8			13.1			113			38		
Cumulative Mill Average:								43.3			14.5			107			38		
Mill Factor, %								98.8			90.3			105.6			100.0		
Mill Index, %:								99.3			92.3			107.6			102.7		

TABLE VII

Mill E--42-lb. Linerboard

No samples submitted.

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE VIII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
														In			Across		
		Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill F--42-lb. Linerboard																			
6/19/51	--	44.0	42.2	43.4	14.5	13.0	13.7	120	80	106	43	36	40	400	328	371	472	368	415[a]
6/23/51	--	44.0	42.0	43.0	14.5	12.9	13.7	123	89	107	43	36	40	480	352	395[a]	448	384	419[a]
5/27/51	--	42.4	41.6	42.0	14.0	12.5	13.6	126	96	112	42	34	38	448	320	366[a]	472	368	415[a]
7/3/51	--	43.4	41.0	42.1	15.0	12.6	14.2	120	92	105	44	38	41	416	360	398[a]	464	400	431[a]
7/ 9/51	--	45.4	43.0	44.1	15.3	13.0	14.0	131	89	110	44	38	41	416	352	387[a]	472	376	429[a]
7/10/51	--	45.4	42.2	44.0	14.8	13.4	14.3	130	97	111	46	38	43	448	368	416[a]	616	416	489[a]
7/17/51	--	43.8	42.0	42.6	15.0	12.0	13.8	131	91	111	42	36	39	456	352	408[a]	464	392	413[a]
7/20/51	--	45.0	42.6	43.7	15.4	13.5	14.4	122	89	112	46	40	44	440	400	418[a]	512	440	467[a]
7/20/51	--	45.0	42.4	43.7	15.6	13.9	14.7	125	96	108	44	38	41	456	368	417[a]	512	392	453[a]
				43.2			14.0			109			41			397			437
				43.1			14.3			105			39			387			428
				100.2			97.9			103.8			105.1			102.6			102.1
				100.2			98.6			103.8			110.8			105.0			106.3

ıdings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (Continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elm I Max.	Elm I Mi
											Mill F--42-lb. Linerboard								
147252	F-46	W.F.	7/10/51	6/19/51	--	44.0	42.2	43.4	14.5	13.0	13.7	120	80	106	43	36	40	400	32
147361	F-47	W.F.	7/19/51	6/23/51	--	44.0	42.0	43.0	14.5	12.9	13.7	123	89	107	43	36	40	480	35
147362	F-48	W.F.	7/20/51	6/27/51	--	42.4	41.6	42.0	14.0	12.5	13.6	126	96	112	42	34	38	448	32
147426	F-49	W.F.	7/24/51	7/3/51	--	43.4	41.0	42.1	15.0	12.6	14.2	120	92	105	44	38	41	416	36
147427	F-50	W.F.	7/24/51	7/ 9/51	--	45.4	43.0	44.1	15.3	13.0	14.0	131	89	110	44	38	41	416	35
147428	F-51	W.F.	7/24/51	7/10/51	--	45.4	42.2	44.0	14.8	13.4	14.3	130	97	111	46	38	43	448	36
147429	F-52	W.F.	7/24/51	7/17/51	--	43.8	42.0	42.6	15.0	12.0	13.8	131	91	111	42	36	39	456	35
147484	F-53	W.F.	7/27/51	7/20/51	--	45.0	42.6	43.7	15.4	13.5	14.4	122	89	112	46	40	44	440	40
147485	F-54	W.F.	7/27/51	7/20/51	--	45.0	42.4	43.7	15.6	13.9	14.7	125	96	108	44	38	41	456	36
Current Mill Average:								43.2			14.0			109			41		
Cumulative Mill Average								43.1			14.3			105			39		
Mill Factor, %								100.2			97.9			103.8			105.1		
Mill Index, %								100.2			98.6			103.8			110.8		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE IX

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
														In			Across		
		Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
								Mill G--42-lb. Linerboard											
/25/51	1	43.8	41.6	43.0	15.1	12.8	14.0	115	77	99	38	32	35	416	328	346[a]	384	328	357[a]
/25/51	1	43.6	41.6	42.6	16.0	13.0	14.7	113	68	97	36	32	34	368	320	342[a]	440	320	363[a]
/ 2/51	1	44.2	43.2	43.6	15.4	13.0	14.3	123	86	106	36	32	33	400	304	337[a]	416	336	365[a]
/ 2/51	1	43.8	42.0	42.9	14.7	12.2	13.9	123	82	104	35	32	34	384	288	325	384	336	360[a]
/12/51	1	42.4	41.4	42.0	14.9	13.7	14.4	123	85	102	38	32	35	392	288	334[a]	400	328	354[a]
/12/51	1	44.0	42.6	43.4	14.0	11.8	12.9	131	87	110	36	32	34	384	312	337	392	328	359[a]
/25/51	1	42.0	40.0	40.6	14.6	12.7	14.0	120	81	106	35	30	32	368	296	329[a]	392	320	358[a]
/25/51	1	43.0	40.2	41.8	14.5	12.5	13.8	135	93	108	35	30	32	368	304	335[a]	424	344	373[a]
				42.5			14.0			104			34			336			361
				43.0			14.2			107			36			369			401
				98.8			98.6			97.2			94.4			91.1			90.0
				98.6			98.6			99.0			91.9			88.9			87.8

lings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE IX

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	E In Max.	E In Min.
											Mill G--42-lb. Linerboard								
147144	G-356	WFL	7/ 3/51	6/25/51	1	43.8	41.6	43.0	15.1	12.8	14.0	115	77	99	38	32	35	416	328
147145	G-357	WFL	7/ 3/51	6/25/51	1	43.6	41.6	42.6	16.0	13.0	14.7	113	68	97	36	32	34	368	320
147176	G-358	WFL	7/ 5/51	7/ 2/51	1	44.2	43.2	43.6	15.4	13.0	14.3	123	86	106	36	32	33	400	304
147178	G-359	WFL	7/ 5/51	7/ 2/51	1	43.8	42.0	42.9	14.7	12.2	13.9	123	82	104	35	32	34	384	288
147321	G-360	WFL	7/16/51	7/12/51	1	42.4	41.4	42.0	14.9	13.7	14.4	123	85	102	38	32	35	392	288
147322	G-361	WFL	7/16/51	7/12/51	1	44.0	42.6	43.4	14.0	11.8	12.9	131	87	110	36	32	34	384	312
147530	G-362	WFL	7/30/51	7/25/51	1	42.0	40.0	40.6	14.6	12.7	14.0	120	81	106	35	30	32	368	296
147531	G-363	WFL	7/30/51	7/25/51	1	43.0	40.2	41.8	14.5	12.5	13.8	135	93	108	35	30	32	368	304
Current Mill Average:								42.5			14.0			104			34		
Cumulative Mill Average:								43.0			14.2			107			36		
Mill Factor, %								98.8			98.6			97.2			94.4		
Mill Index, %								98.6			98.6			99.0			91.9		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE X

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
														In			Across		
		Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
								Mill H--42-lb. Linerboard											
/6/51	2	43.8	41.8	42.8	14.0	12 0	13.1	121	82	100	36	30	34	464	304	378a	456	368	416a
/7/51	2	43.6	42.0	42.9	13.6	12.0	12.9	128	73	102	36	30	33	376	328	353	448	344	388a
/11/51	2	44.6	41.0	43.5	13.5	12.0	12.9	139	80	103	38	31	34	416	272	359	440	384	407a
/12/51	2	43.8	41.8	42.6	14.0	13.0	13.6	117	79	99	36	30	33	408	312	367	448	336	388a
/18/51	2	43.8	41.6	42.4	14.0	12.4	12.9	124	74	106	36	30	33	448	312	371a	504	352	402a
/19/51	2	42.8	41.0	42.0	13.9	12.9	13.3	110	79	95	37	32	34	440	320	376a	448	352	390a
/29/51	2	43.2	41.6	42.3	14.0	12.5	13.2	118	79	103	39	32	36	480	296	369	472	368	410a
/30/51	2	43.6	41.4	42.3	12.8	11.0	11.9	126	87	103	35	30	33	400	296	351	432	320	367a
				42.6			13.0			101			34			365			396
				43.0			14.3			105			36			386			414
				99.1			90.9			96.2			94.4			94.6			95.7
				98.8			91.5			96.2			91.9			96.6			96.4

dings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE X

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elme In Max.	Elme In Min.
											Mill H--42-lb. Linerboard								
147208	H-259	WF1S	7/ 9/51	6/ 6/51	2	43.8	41.8	42.8	14.0	12 0	13.1	121	82	100	36	30	34	464	304
147209	H-260	WF1S	7/ 9/51	6/ 7/51	2	43.6	42.0	42.9	13.6	12.0	12.9	128	73	102	36	30	33	376	328
147210	H-261	WF1S	7/ 9/51	6/11/51	2	44.6	41.0	43.5	13.5	12.0	12.9	139	80	103	38	31	34	416	272
147211	H-262	WF1S	7/ 9/51	6/12/51	2	43.8	41.8	42.6	14.0	13.0	13.6	117	79	99	36	30	33	408	312
147533	H-263	WF1S	7/30/51	6/18/51	2	43.8	41.6	42.4	14.0	12.4	12.9	124	74	106	36	30	33	448	312
147534	H-264	WF1S	7/30/51	6/19/51	2	42.8	41.0	42.0	13.9	12.9	13.3	110	79	95	37	32	34	440	320
147535	H-265	WF1S	7/30/51	6/29/51	2	43.2	41.6	42.3	14.0	12.5	13.2	118	79	103	39	32	36	480	296
147536	H-266	WF1S	7/30/51	6/30/51	2	43.6	41.4	42.3	12.8	11.0	11.9	126	87	103	35	30	33	400	296
Current Mill Average:								42.6			13.0			101			34		
Cumulative Mill Average:								43.0			14.3			105			36		
Mill Factor, %								99.1			90.9			96.2			94.4		
Mill Index, %								98.8			91.5			96.2			91.9		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XI

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength p.s.i. gage Max.	Bursting Strength p.s.i. gage Min.	Bursting Strength p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill I--42-lb. Linerboard																			
5/16/51	1	43.6	41.8	42.3	14.6	13.1	13.8	117	88	101	33	29	31	384	288	339[a]	432	336	374[a]
7/17/51	1	43.4	42.0	42.5	13.8	12.5	12.9	120	76	102	35	29	31	384	280	319[a]	400	336	375[a]
7/23/51	1	43.0	41.6	42.5	13.7	12.6	13.3	126	81	102	33	28	31	336	288	319	440	304	365[a]
7/25/51	1	44.2	40.4	42.9	13.7	12.8	13.2	124	89	106	34	30	32	376	272	313	464	320	380[a]
7/27/51	1	45.0	42.4	44.1	14.3	12.8	13.3	120	83	106	35	31	33	416	272	339[a]	456	352	389[a]
				42.9			13.3			104			32			326			376
				43.1			13.6			105			34			348			406
				99.5			97.8			99.0			94.1			93.7			92.6
				99.5			93.7			99.0			86.5			86.2			91.5

TABLE XII

Mill J--42-lb. Linerboard

5/30/51	1	43.2	41.6	42.1	14.5	13.1	13.8	107	77	92	36	31	33	368	336	355[a]	400	312	361[a]
5/30/51	1	44.0	42.0	42.9	14.5	13.2	13.8	112	75	94	37	32	34	432	328	366[a]	424	352	389[a]
7/ 9/51	1	44.0	42.2	42.9	13.9	12.4	13.1	113	90	102	34	30	32	448	296	357[a]	440	328	378[a]
7/ 9/51	1	44.2	42.2	43.0	13.8	12.7	13.3	120	69	98	41	32	34	432	320	369[a]	400	320	364[a]
7/15/51	1	43.8	40.4	42.7	14.0	12.9	13.4	120	82	103	34	29	32	400	304	355[a]	392	328	356[a]
7/16/51	1	44.0	42.0	42.9	13.9	12.6	13.2	126	80	105	33	28	31	408	336	363[a]	400	320	373[a]
				42.8			13.4			99			33			361			370
				42.9			14.1			105			33			355			377
				99.8			95.0			94.3			100.0			101.7			98.1
				99.3			94.4			94.3			89.2			95.5			90.0

[a]dings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XI

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength p.s.i. gage Max.	Bursting Strength p.s.i. gage Min.	Bursting Strength p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elr In Max.	Elr In Min.
Mill I--42-lb. Linerboard																			
147363	I-184	WFlS	7/20/51	6/16/51	1	43.6	41.8	42.3	14.6	13.1	13.8	117	88	101	33	29	31	384	288
147424	I-185	WFlS	7/24/51	7/17/51	1	43.4	42.0	42.5	13.8	12.5	12.9	120	76	102	35	29	31	384	280
147538	I-186	WFlS	7/30/51	7/23/51	1	43.0	41.6	42.5	13.7	12.6	13.3	126	81	102	33	28	31	336	288
147539	I-187	WFlS	7/30/51	7/25/51	1	44.2	40.4	42.9	13.7	12.8	13.2	124	89	106	34	30	32	376	272
147541	I-188	WFlS	7/31/51	7/27/51	1	45.0	42.4	44.1	14.3	12.8	13.3	120	83	106	35	31	33	416	272
Current Mill Average:								42.9			13.3			104			32		
Cumulative Mill Average								43.1			13.6			105			34		
Mill Factor, %								99.5			97.8			99.0			94.1		
Mill Index, %								99.5			93.7			99.0			86.5		

TABLE XII

Mill J--42-lb. Linerboard																			
147281	J-283	B F	7/13/51	6/30/51	1	43.2	41.6	42.1	14.5	13.1	13.8	107	77	92	36	31	33	368	336
147282	J-284	B.F.	7/13/51	6/30/51	1	44.0	42.0	42.9	14.5	13.2	13.8	112	75	94	37	32	34	432	328
147411	J-285	B.F.	7/23/51	7/ 9/51	1	44.0	42.2	42.9	13.9	12.4	13.1	113	90	102	34	30	32	448	296
147412	J-286	B.F.	7/23/51	7/ 9/51	1	44.2	42.2	43.0	13.8	12.7	13.3	120	69	98	41	32	34	432	320
147413	J-287	B.F.	7/23/51	7/15/51	1	43.8	40.4	42.7	14.0	12.9	13.4	120	82	103	34	29	32	400	304
147414	J-288	B.F.	7/23/51	7/16/51	1	44.0	42.0	42.9	13.9	12.6	13.2	126	80	105	33	28	31	408	336
Current Mill Average:								42.8			13.4			99			33		
Cumulative Mill Average:								42.9			14.1			105			33		
Mill Factor, %								99.8			95.0			94.3			100.0		
Mill Index, %								99.3			94.4			94.3			89.2		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XIII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill K--42-lb. Linerboard																			
7/20/51	7	44.0	41.6	42.2	13.4	11.5	12.5	122	74	95	41	32	36	400	272	347[a]	480	336	400[a]
				42.2			12.5			95			36			347			400
No previous samples submitted.																			
				97.9			88.0			90.5			97.3			91.8			97.3

TABLE XIV

Mill L--42-lb. Linerboard																			
7/22/51	1	43.6	41.8	42.6	14.8	12.0	13.7	115	80	98	39	32	35	392	320	365[a]	488	368	411[a]
				42.6			13.7			98			35			365			411
				42.8			13.5			105			36			360			390
				99.5			101.5			93.3			97.2			101.4			105.4
				98.8			96.5			93.3			94.6			96.6			100.0

ings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	El Max.	El Min.	El Av.
											Mill K--42-lb. Linerboard									
147483	K-1		7/26/51	7/20/51	7	44.0	41.6	42.2	13.4	11.5	12.5	122	74	95	41	32	36	400	272	
Current Mill Average								42.2			12.5			95			36			
Cumulative Mill Average:																				
Mill Factor, %											No previous samples submitted.									
Mill Index, %								97.9			88.0			90.5			97.3			
											TABLE XIV									
											Mill L--42-lb. Linerboard									
147277	L-28		7/13/51	6/22/51	1	43.6	41.8	42.6	14.8	12.0	13.7	115	80	98	39	32	35	392	320	
Current Mill Average:								42.6			13.7			98			35			
Cumulative Mill Average:								42.8			13.5			105			36			
Mill Factor, %								99.5			101.5			93.3			97.2			
Mill Index, %								98.8			96.5			93.3			94.6			

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XV

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
							Mill M--42-lb. Linerboard												
5/25/51	2	44.0	41.2	42.9	14.0	12.9	13.4	118	83	102	40	34	36	512	352	410[a]	464	360	408[a]
5/26/51	2	44.4	41.8	43.3	16.1	14.0	15.4	122	75	97	43	33	38	448	368	404[a]	528	384	451[a]
7/ 2/51	2	45.6	41.8	43.5	16.8	15.0	15.8	130	88	107	45	38	41	424	336	391[a]	480	400	434[a]
7/ 7/51	2	44.4	41.0	42.6	14.4	13.0	13.8	116	84	98	43	35	40	448	336	383[a]	456	360	415[a]
7/ 9/51	2	44.2	41.6	42.5	13.7	12.5	13.2	134	98	113	40	34	36	504	336	392	456	368	409[a]
7/14/51	2	43.4	40.8	42.3	14.0	12.5	13.3	124	80	105	37	30	34	424	352	379[a]	432	376	411[a]
7/15/51[b]	2	44.2	43.0	43.8	14.7	13.5	13.9	126	83	106	40	36	37	432	368	401[a]	448	336	405[a]
	2	45.8	43.0	44.1	15.4	14.0	14.7	126	84	103	36	36	41	480	360	431[a]	488	408	443[a]
7/22/51	2	44.6	40.0	42.0	14.3	12.8	13.4	126	88	107	41	33	37	456	328	387	448	368	412[a]
7/23/51	2	44.2	41.0	42.8	14.4	12.5	13.5	128	87	105	42	35	37	432	320	389[a]	480	384	437[a]
				43.0			14.1			104			38			397			423
				42.6			13.8			104			38			390			421
				100.9			102.2			100.0			100.0			101.8			100.5
				99.8			99.3			99.0			102.7			105.0			102.9

adings for one or more specimens which tore beyond the 3/8-inch limit.

tute File No. 147364 and 147416 did not carry a "Mill Code and Sample No." Also, upon examination appears that the sample submitted to the Institute as M-16 (File No. 147425) may have been mislabeled.

le No. 147364 carried the date of July 14, 1951. Comparing this date with those on the mill data sheets, mple is M-16. Since the sample under File No. 147425 was dated July 15, 1951, it apparently aken, namely, M-17 (not M-16 as marked on the sample). By elimination, we have assumed that File No. no identification whatsoever, is M-18. These mill code assignments are obviously very arbitrary nd that the differences given in the "Institute vs. Mill Report" are based on these arbitrary

TABLE XV

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmen In Max.	Elmen In Min.
											Mill M--42-lb. Linerboard							
147124	M-11	W.	7/ 2/51	6/25/51	2	44.0	41.2	42.9	14.0	12.9	13.4	118	83	102	40	34	36	512	352
147125	M-12	D.	7/ 2/51	6/26/51	2	44.4	41.8	43.3	16.1	14.0	15.4	122	75	97	43	33	38	448	368
147253	M-13	D.	7/10/51	7/ 2/51	2	45.6	41.8	43.5	16.8	15.0	15.8	130	88	107	45	38	41	424	336
147278	M-14	W.	7/13/51	7/ 7/51	2	44.4	41.0	42.6	14.4	13.0	13.8	116	84	98	43	35	40	448	336
147415	M-15	W.	7/23/51	7/ 9/51	2	44.2	41.6	42.5	13.7	12.5	13.2	134	98	113	40	34	36	504	336
147364	M-16[b]	W.	7/20/51	7/14/51	2	43.4	40.8	42.3	14.0	12.5	13.3	124	80	105	37	30	34	424	352
147425	M-17[b]	W.	7/24/51	7/15/51[b]	2	44.2	43.0	43.8	14.7	13.5	13.9	126	83	106	40	36	37	432	368
147416	M-18[b]		7/23/51		2	45.8	43.0	44.1	15.4	14.0	14.7	126	84	103	36	36	41	480	360
147528	M-19	W.	7/30/51	7/22/51	2	44.6	40.0	42.0	14.3	12.8	13.4	126	88	107	41	33	37	456	328
147529	M-20	W.	7/30/51	7/23/51	2	44.2	41.0	42.8	14.4	12.5	13.5	128	87	105	42	35	37	432	320
Current Mill Average:								43.0			14.1			104			38		
Cumulative Mill Average:								42.6			13.8			104			38		
Mill Factor, %								100.9			102.2			100.0			100.0		
Mill Index, %								99.8			99.3			99.0			102.7		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

[b] The samples covered by Institute File No. 147364 and 147416 did not carry a "Mill Code and Sample No." Also, upon examina of the mill data sheets, it appears that the sample submitted to the Institute as M-16 (File No. 147425) may have been mis

The sample referred to as File No. 147364 carried the date of July 14, 1951. Comparing this date with those on the mill d it would appear that this sample is M-16. Since the sample under File No. 147425 was dated July 15, 1951, it apparently represents the next sample taken, namely, M-17 (not M-16 as marked on the sample). By elimination, we have assumed that F 147416, which sample carried no identification whatsoever, is M-18. These mill code assignments are obviously very arbitr and it should be borne in mind that the differences given in the "Institute vs. Mill Report" are based on these arbitrary assumptions.

TABLE XVI

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
														In			Across		
		Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill E--44/46-lb. Drum Linerboard																			
7/ 9/51	1	48.6	46.0	47.5	14.9	13.6	14.1	125	85	106	41	35	37	528	400	457[a]	448	336	390[a]
7/12/51	1	48.0	46.0	46.6	14.8	13.2	14.0	127	90	105	39	30	35	528	408	441[a]	432	344	391[a]
7/17/51	1	44.4	42.0	43.5	14.0	13.0	13.5	125	80	105	36	31	33	432	320	389[a]	432	320	377[a]
7/19/51	1	45.6	41.6	43.7	13.8	12.7	13.2	123	78	102	37	31	34	504	392	433[a]	416	320	363
7/26/51	1	50.2	47.2	48.4	14.6	12.7	13.7	122	78	109	41	33	37	520	408	453[a]	432	360	395[a]
				46.0			13.7			105			35			434			383
				47.2			14.3			99			41			449			431
				97.5			95.8			106.1			85.4			96.7			88.9

adings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XVI

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			E In	
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.
Mill E--44/46-lb. Drum Linerboard																			
147317	E-258	W.F.	7/16/51	7/ 9/51	1	48.6	46.0	47.5	14.9	13.6	14.1	125	85	106	41	35	37	528	400
147318	E-259	W.F.	7/16/51	7/12/51	1	48.0	46.0	46.6	14.8	13.2	14.0	127	90	105	39	30	35	528	408
147419	E-260		7/23/51	7/17/51	1	44.4	42.0	43.5	14.0	13.0	13.5	125	80	105	36	31	33	432	320
147476	E-261		7/26/51	7/19/51	1	45.6	41.6	43.7	13.8	12.7	13.2	123	78	102	37	31	34	504	392
147537	E-262		7/30/51	7/26/51	1	50.2	47.2	48.4	14.6	12.7	13.7	122	78	109	41	33	37	520	408
Current Mill Average:								46.0			13.7			105			35		
Cumulative Mill Average:								47.2			14.3			99			41		
Mill Factor, %								97.5			95.8			106.1			85.4		

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

As a supplementary part of the Continuous Baseline Study, comparisons of the mill test results with those obtained at The Institute of Paper Chemistry on corresponding samples have been included in this report. As may be noted in Table XVII, the atmospheric conditions used prior to and during the testing period varied considerably.

TABLE XVII

Mill Code	Preconditioning R.H., %	Temp., °F.	Time, hr.	Conditioning R.H., %	Temp., °F.	Time, hr.
A	No preconditioning			47-70	85-92	--
B	52-70	80-92	1/2	50	70	24
C	50-53	73	72-216	50-53	73	24-48
D	30	75-76	8	50-53	72-73	16
E*	No preconditioning			48-65	94-98	--
F	"			No conditioning		
G	"			50	73	24
H	"			50	73	24
I	"			50-55	82-90	--
J	"			50-52	72-73	1/2
K	"			50	73	24
L	"			70	92	--
M	"			49-1/2 to 66	87-94	--

* Drum linerboard

A summary of the mill comparisons for the current period as compared with the previous period may be seen in Tables XVIII and XIX,

respectively. The comparison for the various mills is given in Tables XX to XXXII, for the 42-lb. liner samples. A comparison of the special drum stock is given in Table XXXIII. In all the comparisons given in Tables XVIII to XXXIII, the Institute's test values have been used as the reference line.

A comparison of the test data in Tables XVIII and XIX indicates that in the majority of cases there is good agreement between the mill and Institute data. Table XVIII shows the average difference encountered in the comparison of Institute and mill results for the sample lots submitted by each mill for the current period, as well as the maximum difference encountered in comparing the Institute and mill test results for a given sample lot. In Table XIX, the average differences shown for each test in Table XVIII have been calculated on a percentage basis for each mill. In addition, for purposes of comparison, the average percentage differences for the preceding two periods are shown.

It may be noted in Table XIX that the maximum variation between the average basis weight results of the Institute and those of a given mill on corresponding samples is two per cent for the current period. This figure compares favorably with the maximum variation of two per cent for the preceding two periods. Further, it may be noted that the average basis weight results for Mills A, B, I, and L are lower than those for the Institute, whereas the results for Mills C, D, F, G, H, J, and K are higher and the result for Mill M is the same. In general, the agreement in basis weight results is very good for the current period.

The maximum variation in caliper for the current period is four per cent. Compared with the values for the Institute, the average results for Mills B, C, D, F, G, I, J, K, and M are lower, the average results for Mills A and L are higher, and the average result for Mill H is the same. The accord between Institute and mill caliper values is good.

It may be noted in Table XIX that the bursting strength results exhibit a maximum variation of eight per cent for the current period. The average results for Mills B, C, H, I, K, and L are higher than those for the Institute, whereas the results for Mills A, D, F, G, J, and M are lower. The agreement in bursting strength results is good for the majority of the mills, with the possible exception of that for Mill L.

The G. E. puncture results exhibit a maximum variation of thirteen per cent for the current period. Compared with the values for the Institute, the results for Mills C, F, I, and M are lower, the results for Mills A and J are higher, and the results for Mills G and H are the same. The agreement between the Institute and mill results is good with the exception of the variations for Mills F and M.

It may be seen in Table XIX that the average machine direction tear results for Mills F, I, J, K, and M are higher than those for the Institute, whereas the average results for Mills A, B, C, D, G, H and L are lower. The maximum variation for the current period is thirteen per cent. The differences encountered for Mills B, C, G, and K appear to be excessive.

With regard to the across-machine direction tear results, it may be noted that the average results for Mills D, F, I, J, K, and M are higher than those for the Institute, whereas the average results for Mills A, B, C, G, H, and L are lower. None of the differences encountered appear to be inordinate.

TABLE XVIII

SUMMARY OF TEST RESULT COMPARISONS
(Average Mill and Institute Results)

Mills*	A	B	C	D	F	G	H	I	J	K	L	M
No. Samples Compared	8	12	4	12	9	8	8	5	6	1	1	10
Basis Weight												
Institute	42.9	43.7	42.1	42.8	43.2	42.5	42.6	42.9	42.8	42.2	42.6	43.0
Mill	42.7	43.6	42.2	42.9	43.3	42.6	43.6	42.5	43.4	43.2	42.3	43.0
Av. Diff.**	-0.2	-0.1	+0.1	+0.1	+0.1	+0.1	+1.0	-0.4	+0.6	+1.0	-0.3	0.0
Max. Diff.***	-0.6	-0.4	+0.4	±0.5	+0.6	+0.4	+1.7	-0.8	+0.8	+1.0	-0.3	+0.6
Caliper												
Institute	12.7	12.4	13.4	13.1	14.0	14.0	13.0	13.3	13.4	12.5	13.7	14.1
Mill	12.8	12.2	13.2	12.7	13.7	13.6	13.0	13.1	13.3	12.4	14.1	13.5
Av. Diff.**	+0.1	-0.2	-0.2	-0.4	-0.3	-0.4	0.0	-0.2	-0.1	-0.1	+0.4	-0.6
Max. Diff.***	±0.3	-0.4	-0.3	-0.6	-0.8	-0.8	±0.4	-0.3	-0.4	-0.1	+0.4	-1.0
Bursting Strength												
Institute	112	105	105	113	109	104	101	104	99	95	98	104
Mill	108	108	107	108	104	102	105	107	95	101	106	99
Av. Diff.**	-4	+3	+2	-5	-5	-2	+4	+3	-4	+6	+8	-5
Max. Diff.***	-9	+13	+5	-11	-10	-9	+10	+7	-7	+6	+8	-12
G. E. Puncture												
Institute	34	32	35	38	41	34	34	32	33	36	35	38
Mill	35	--	34	--	37	34	34	30	34	--	--	33
Av. Diff.**	+1	--	-1	--	-4	0	0	-2	+1	--	--	-5
Max. Diff.***	+3	--	-3	--	-9	±2	+3	-3	+3	--	--	-7
Tearing Strength, in												
Institute	367	346	344	391	397	336	365	326	361	347	365	397
Mill	355	312	307	381	401	303	343	352	382	391	364	416
Av. Diff.**	-12	-34	-37	-10	+4	-33	-22	+26	+21	+44	-1	+19
Max. Diff.***	-36	-66	-51	-38	±24	-50	-56	+40	+40	+44	-1	+76
Tearing Strength, across												
Institute	401	375	388	423	437	361	396	376	370	400	411	423
Mill	390	364	362	449	448	342	385	401	399	430	386	445
Av. Diff.**	-11	-11	-26	+26	+11	-19	-11	+25	+29	+30	-25	+22
Max. Diff.***	-29	-49	-52	+65	+46	-45	-25	+36	+48	+30	-25	+67

* Comparison based on averages involves only those samples on which mill test data were submitted.

** Average difference is the difference between the Institute mill average and the mill average based on mill test data.

*** Maximum difference encountered in comparing the Institute average and the mill average for any sample submitted by that particular mill.

TABLE XIX

SUMMARY OF TEST RESULTS--COMPARISON BY PERIODS

	Average Difference, %					
	Basis Weight	Caliper	Bursting Strength	G. E. Puncture	Tearing Strength, In	Across
Mill A						
Current period	-0.5	+0.8	-4	+3	-3	-3
48th period	-0.5	+2	+2	0	-1	-2
47th period	0	0	+0.9	+6	+4	+2
Mill B						
Current period	-0.2	-2	+3	--	-10	-3
48th period	+0.2	+0.8	+4	--	-10	-5
47th period	+0.7	+0.7	+1	+9	-11	-6
Mill C						
Current period	+0.2	-1	+2	-3	-11	-7
48th period	-0.5	-2	+7	-5	-10	-7
47th period	-0.2	-0.8	+7	+3	-6	-3
Mill D						
Current period	+0.2	-3	-4	--	-3	+6
48th period	-1	-2	-2	--	-4	+4
47th period	-0.7	-2	0	--	-4	+3
Mill E						
Current period	--	--	--	--	--	--
48th period	--	--	--	--	--	--
47th period	--	--	--	--	--	--
Mill F						
Current period	+0.2	-2	-5	-10	+1	+3
48th period	-1	-2	+3	+5	-6	-4
47th period	-0.2	-2	+2	+8	-3	-3
Mill G						
Current period	+0.2	-3	-2	0	-10	-5
48th period	-0.2	-1	-1	-11	-6	-4
47th period	+0.2	-0.7	0	+3	-7	-2
Mill H						
Current period	+2	0	+4	0	-6	-3
48th period	+2	0	+9	-3	-10	-5
47th period	+2	+0.8	+2	0	-7	-0.3
Mill I						
Current period	-0.9	-2	+3	-6	+8	+7
48th period	+1	-2	+11	-6	+12	+8
47th period	+0.7	-0.8	+4	-3	+4	+5
Mill J						
Current period	+1	-0.7	-4	+3	+6	+8
48th period	+1	-2	-1	0	+9	+11
47th period	+1	0	-6	+6	+15	+15
Mill K						
Current period	+2	-0.8	+6	--	+13	+8
48th period	--	--	--	--	--	--
47th period	--	--	--	--	--	--
Mill L						
Current period	-0.7	+3	+8	--	-0.3	-6
48th period	0	0	+0.9	--	-6	-3
47th period	+1	0	+2	--	-2	+4
Mill M						
Current period	0	-4	-5	-13	+5	+5
48th period	-0.2	-2	-2	-14	+7	+5
47th period	-2	-3	-5	-23	-6	-6

TABLE XX

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951

Institute Data versus Mill Data

Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
													In			Across		
	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
							Mill A--42-lb. Linerboard											
2	42.8	42.7	-0.1	12.5	12.4	-0.1	102	108	+6	34	35	+1	364[a]	357	-7	382[a]	394	+12
1	42.8	42.9	+0.1	12.6	12.9	+0.3	111	108	-3	34	35	+1	327[a]	348	+21	396[a]	388	-8
2	43.0	42.6	-0.4	12.8	12.7	-0.1	109	109	0	35	36	+1	373	361	-12	414[a]	393	-21
1	43.1	42.6	-0.5	12.9	13.1	+0.2	108	108	0	36	36	0	382[a]	350	-32	418[a]	389	-29
2	43.5	42.9	-0.6	13.2	13.1	-0.1	115	108	-7	33	36	+3	405[a]	369	-36	387[a]	383	-4
1	42.5	42.4	-0.1	12.9	13.0	+0.1	119	110	-9	34	34	0	337	343	+6	413[a]	405	-8
2	42.4	42.7	+0.3	12.2	12.5	+0.3	114	108	-6	34	34	0	374[a]	363	-11	391[a]	377	-14
2	42.8	42.8	0.0	12.7	12.4	-0.3	117	108	-9	33	35	+2	372[a]	349	-23	406[a]	391	-15
	42.9	42.7	-0.2	12.7	12.8	+0.1	112	108	-4	34	35	+1	367	355	-12	401	390	-11

eadings for one or more specimens which tore beyond the 3/8-inch limit.

age" data are calculated from the totals of the individual readings.

TABLE XX

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elme		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	In Mill	Di
Mill A--42-lb. Linerboard																			
147122	A-254	WF1S	6/25/51	2	42.8	42.7	-0.1	12.5	12.4	-0.1	102	108	+6	34	35	+1	364[a]	357	
147123	A-255	WF1S	6/25/51	1	42.8	42.9	+0.1	12.6	12.9	+0.3	111	108	-3	34	35	+1	327[a]	348	+
147199	A-256	WF1S	7/ 2/51	2	43.0	42.6	-0.4	12.8	12.7	-0.1	109	109	0	35	36	+1	373	361	-
147200	A-257	WF1S	7/ 3/51	1	43.1	42.6	-0.5	12.9	13.1	+0.2	108	108	0	36	36	0	382[a]	350	-
147345	A-258	WF1S	7/10/51	2	43.5	42.9	-0.6	13.2	13.1	-0.1	115	108	-7	33	36	+3	405[a]	369	-
147346	A-259	WF1S	7/11/51	1	42.5	42.4	-0.1	12.9	13.0	+0.1	119	110	-9	34	34	0	337	343	
147418	A-260	WF1S	7/15/51	2	42.4	42.7	+0.3	12.2	12.5	+0.3	114	108	-6	34	34	0	374[a]	363	-
147486	A-261	WF1S	7/15/51	2	42.8	42.8	0.0	12.7	12.4	-0.3	117	108	-9	33	35	+2	372[a]	349	-
Current Mill Average:					42.9	42.7	-0.2	12.7	12.8	+0.1	112	108	-4	34	35	+1	367	355	-

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXI

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

Ch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
													In			Across		
	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill B--42-lb. Linerboard																		
1	44.4	44.6	+0.2	12.8	12.4	-0.4	103	109	+6	34			363[3]	314	-49	390[a]	367	-23
1	44.3	44.4	+0.1	12.8	12.4	-0.4	106	109	+3	35			354	311	-43	398[a]	390	-8
1	44.6	44.5	-0.1	12.6	12.4	-0.2	100	111	+11	35			357	300	-57	398[a]	349	-49
1	44.3	44.4	+0.1	12.6	12.5	-0.1	97	110	+13	34			357	314	-43	389[a]	360	-29
1	43.6	43.4	-0.2	12.0	11.9	-0.1	108	109	+1	31			339	321	-18	375[a]	373	-2
1	43.2	43.5	+0.3	12.0	12.0	0.0	103	108	+5	31			343[3]	341	-2	367[a]	393	+26
1	43.4	43.4	0.0	12.0	11.9	-0.1	109	108	-1	30			321	326	+5	383[a]	397	+14
1	43.1	43.4	+0.3	12.0	11.9	-0.1	107	108	+1	30			341	343	+2	364[a]	382	+18
1	43.3	43.0	-0.3	12.4	12.3	-0.1	101	109	+8	31			355[a]	295	-60	361[a]	339	-22
1	43.3	42.9	-0.4	12.5	12.3	-0.2	104	108	+4	31			347	281	-66	360[a]	341	-19
1	43.4	43.1	-0.3	12.5	12.3	-0.2	111	106	-5	32			334[3]	299	-35	355[a]	337	-18
1	43.2	43.0	-0.2	12.3	12.4	+0.1	108	107	-1	31			343[3]	293	-50	361[a]	346	-15
	43.7	43.6	-0.1	12.4	12.2	-0.2	105	108	+3	32			346	312	-34	375	364	-11

TABLE XXII

Mill C--42-lb. Linerboard																		
1	42.2	42.6	+0.4	13.3	13.3	0.0	109	109	0	36	33	-3	357	306	-51	401[a]	362	-39
1	42.0	42.1	+0.1	13.4	13.3	-0.1	109	111	+2	36	37	+1	353[a]	317	-36	375[a]	365	-10
1	41.9	42.0	+0.1	13.4	13.2	-0.2	102	104	+2	35	32	-3	331	280	-51	396[a]	344	-52
1	42.1	42.1	0.0	13.4	13.1	-0.3	98	103	+5	35	33	-2	334	324	-10	379[a]	376	-3
	42.1	42.2	+0.1	13.4	13.2	-0.2	105	107	+2	35	34	-1	344	307	-37	388	362	-26

eadings for one or more specimens which tore beyond the 3/8-inch limit.
age" data are calculated from the totals of the individual readings.

TABLE XXI

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb. IPC	Basis Weight, lb. Mill	Basis Weight, lb. Diff.	Caliper, points IPC	Caliper, points Mill	Caliper, points Diff.	Bursting Strength, p.s.i. gage IPC	Bursting Strength, p.s.i. gage Mill	Bursting Strength, p.s.i. gage Diff.	G. E. Puncture, units IPC	G. E. Puncture, units Mill	G. E. Puncture, units Diff.	I IPC	I Mill
Mill B--42-lb. Linerboard																		
147118	B-431	WFlS	6/24/51	1	44.4	44.6	+0.2	12.8	12.4	-0.4	103	109	+6	34			363[a]	314
147119	B-432	WFlS	6/24/51	1	44.3	44.4	+0.1	12.8	12.4	-0.4	106	109	+3	35			354	311
147120	B-433	WFlS	6/24/51	1	44.6	44.5	-0.1	12.6	12.4	-0.2	100	111	+11	35			357	300
147121	B-434	WFlS	6/24/51	1	44.3	44.4	+0.1	12.6	12.5	-0.1	97	110	+13	34			357	314
147201	B-435	WFlS	7/ 1/51	1	43.6	43.4	-0.2	12.0	11.9	-0.1	108	109	+1	31			339	321
147202	B-436	WFlS	7/ 1/51	1	43.2	43.5	+0.3	12.0	12.0	0.0	103	108	+5	31			343[a]	341
147206	B-437	WFlS	7/ 1/51	1	43.4	43.4	0.0	12.0	11.9	-0.1	109	108	-1	30			321	326
147207	B-438	WFlS	7/ 1/51	1	43.1	43.4	+0.3	12.0	11.9	-0.1	107	108	+1	30			341	343
147313	B-439	WFlS	7/ 8/51	1	43.3	43.0	-0.3	12.4	12.3	-0.1	101	109	+8	31			355[a]	295
147314	B-440	WFlS	7/ 8/51	1	43.3	42.9	-0.4	12.5	12.3	-0.2	104	108	+4	31			347	281
147315	B-441	WFlS	7/ 8/51	1	43.4	43.1	-0.3	12.5	12.3	-0.2	111	106	-5	32			334[a]	299
147316	B-442	WFlS	7/ 8/51	1	43.2	43.0	-0.2	12.3	12.4	+0.1	108	107	-1	31			343[a]	293
Current Mill Average:					43.7	43.6	-0.1	12.4	12.2	-0.2	105	108	+3	32			346	312

TABLE XXII

Mill C--42-lb. Linerboard																		
147319	C-291	W.F.	7/10/51	1	42.2	42.6	+0.4	13.3	13.3	0.0	109	109	0	36	33	-3	357	306
147320	C-292	W.F.	7/10/51	1	42.0	42.1	+0.1	13.4	13.3	-0.1	109	111	+2	36	37	+1	353[a]	317
147417	C-293	W.F.	7/11/51	1	41.9	42.0	+0.1	13.4	13.2	-0.2	102	104	+2	35	32	-3	331	280
147475	C-294	W.F.	7/11/51	1	42.1	42.1	0.0	13.4	13.1	-0.3	98	103	+5	35	33	-2	334	324
Current Mill Average:					42.1	42.2	+0.1	13.4	13.2	-0.2	105	107	+2	35	34	-1	344	307

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.
Note: All "current mill average" data are calculated from the totals of the individual readings.

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

h. o.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units		Elmendorf Tear, g./sheet					
												In			Across		
	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill D--42-lb. Linerboard																	
	44.4	44.1	-0.3	13.8	13.2	-0.6	108	103	-5	40		415[a]	377	-38	413[a]	450	+37
	42.1	41.6	-0.5	12.5	12.4	-0.1	117	108	-9	35		366[a]	369	+3	408[a]	440	+32
	44.4	44.5	+0.1	13.3	13.1	-0.2	118	108	-10	42		399	405	+6	433[a]	466	+33
	42.4	42.8	+0.4	12.9	12.6	-0.3	105	102	-3	39		392[a]	376	-16	413[a]	478	+65
	43.0	42.8	-0.2	12.8	12.8	0.0	114	108	-6	36		358[a]	372	+14	399[a]	450	+51
	42.5	42.4	-0.1	13.0	12.5	-0.5	110	108	-2	36		394[a]	385	-9	427[a]	451	+24
	42.6	43.1	+0.5	12.2	11.9	-0.3	118	107	-11	36		375[a]	382	+7	443[a]	451	+8
	41.9	42.3	+0.4	12.3	12.3	0.0	117	111	-6	36		391[a]	381	-10	431[a]	456	+25
	42.0	42.3	+0.3	13.2	12.8	-0.4	113	107	-6	37		378[a]	362	-16	399[a]	442	+43
	42.6	42.9	+0.3	13.0	12.4	-0.6	110	111	+1	37		407[a]	380	-27	422[a]	445	+23
	42.9	42.8	-0.1	14.0	13.5	-0.5	115	118	+3	41		404[a]	379	-25	459[a]	440	-19
	43.3	42.8	-0.5	13.7	13.3	-0.4	110	104	-6	41		416[a]	399	-17	435[a]	415	-20
	42.8	42.9	+0.1	13.1	12.7	-0.4	113	108	-5	38		391	381	-10	423	449	+26

TABLE XXIV

Mill E--42-lb. Linerboard

No samples submitted.

dings for one or more specimens which tore beyond the 3/8-inch limit.

e" data are calculated from the totals of the individual readings.

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units		Elmendo: g./sl In		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill Diff.	IPC	Mill	Diff.
Mill D--42-lb. Linerboard																		
147177	D-415	W.F.	7/ 2/51	4	44.4	44.1	-0.3	13.8	13.2	-0.6	108	103	-5	40		415[a]	377	-38
147323	D-416	W.F.	7/ 9/51	4	42.1	41.6	-0.5	12.5	12.4	-0.1	117	108	-9	35		366[a]	369	+3
147280	D-417	W.F.	7/10/51	4	44.4	44.5	+0.1	13.3	13.1	-0.2	118	108	-10	42		399	405	+6
147279	D-418	W.F.	7/11/51	4	42.4	42.8	+0.4	12.9	12.6	-0.3	105	102	-3	39		392[a]	376	-16
147324	D-419	W.F.	7/12/51	4	43.0	42.8	-0.2	12.8	12.8	0.0	114	108	-6	36		358[a]	372	+14
147420	D-420	W.F.	7/19/51	4	42.5	42.4	-0.1	13.0	12.5	-0.5	110	108	-2	36		394[a]	385	-9
147430	D-421	W.F.	7/20/51	4	42.6	43.1	+0.5	12.2	11.9	-0.3	118	107	-11	36		375[a]	382	+7
147431	D-422	W.F.	7/22/51	4	41.9	42.3	+0.4	12.3	12.3	0.0	117	111	-6	36		391[a]	381	-10
147474	D-423	W.F.	7/23/51	4	42.0	42.3	+0.3	13.2	12.8	-0.4	113	107	-6	37		378[a]	362	-16
147532	D-424	W.F.	7/24/51	4	42.6	42.9	+0.3	13.0	12.4	-0.6	110	111	+1	37		407[a]	380	-27
147542	D-425	D.F.	7/28/51	4	42.9	42.8	-0.1	14.0	13.5	-0.5	115	118	+3	41		404[a]	379	-25
147543	D-426	D.F.	7/29/51	4	43.3	42.8	-0.5	13.7	13.3	-0.4	110	104	-6	41		416[a]	399	-17
Current Mill Average:					42.8	42.9	+0.1	13.1	12.7	-0.4	113	108	-5	38		391	381	-10

TABLE XXIV

Mill E--42-lb. Linerboard

No samples submitted.

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXV

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
												In			Across		
IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill F--42-lb. Linerboard																	
43.4	43.0	-0.4	13.7	13.2	-0.5	106	104	-2	40	44	+4	371	395	+24	415[a]	451	+36
43.0	43.0	0.0	13.7	13.4	-0.3	107	102	-5	40	35	-5	395[a]	371	-24	419[a]	411	-8
42.0	42.3	+0.3	13.6	13.3	-0.3	112	102	-10	38	36	-2	366[a]	381	+15	415[a]	436	+21
42.1	42.7	+0.6	14.2	14.2	0.0	105	99	-6	41	38	-3	398[a]	415	+17	431[a]	455	+24
44.1	43.9	-0.2	14.0	13.9	-0.1	110	104	-6	41	36	-5	387[a]	411	+24	429[a]	475	+46
44.0	44.4	+0.4	14.3	14.1	-0.2	111	105	-6	43	38	-5	416[a]	423	+7	489[a]	469	-20
42.6	43.2	+0.6	13.8	13.5	-0.3	111	108	-3	39	35	-4	408[a]	389	-19	413[a]	421	+8
43.7	43.7	0.0	14.4	13.8	-0.6	112	107	-5	44	35	-9	418[a]	397	-21	467[a]	443	-24
43.7	43.9	+0.2	14.7	13.9	-0.8	108	107	-1	41	36	-5	417[a]	428	+11	453[a]	468	+15
43.2	43.3	+0.1	14.0	13.7	-0.3	109	104	-5	41	37	-4	397	401	+4	437	448	+11

TABLE XXVI

Mill G--42-lb. Linerboard																	
43.0	43.0	0.0	14.0	13.7	-0.3	99	99	0	35	34	-1	346[a]	307	-39	357[a]	342	-15
42.6	42.5	-0.1	14.7	14.4	-0.3	97	95	-2	34	34	0	342[a]	315	-27	363[a]	349	-14
43.6	43.7	+0.1	14.3	13.5	-0.8	106	105	-1	33	35	+2	337[a]	315	-22	365[a]	367	+2
42.9	42.8	-0.1	13.9	13.5	-0.4	104	106	+2	34	34	0	325	297	-28	360[a]	349	-11
42.0	42.1	+0.1	14.4	13.8	-0.6	102	100	-2	35	33	-2	334[a]	303	-31	354[a]	339	-15
43.4	43.1	-0.3	12.9	12.9	0.0	110	101	-9	34	34	0	337	310	-27	359[a]	340	-19
40.6	41.0	+0.4	14.0	13.5	-0.5	106	105	-1	32	32	0	329[a]	279	-50	358[a]	322	-36
41.8	42.2	+0.4	13.8	13.3	-0.5	108	103	-5	32	33	+1	335[a]	293	-42	373[a]	328	-45
42.5	42.6	+0.1	14.0	13.6	-0.4	104	102	-2	34	34	0	336	303	-33	361	342	-19

lings for one or more specimens which tore beyond the 3/8-inch limit.

" data are calculated from the totals of the individual readings.

TABLE XXV

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmen g In		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Dif
Mill F--42-lb. Linerboard																			
147252	F-46	W.F.	6/19/51	--	43.4	43.0	-0.4	13.7	13.2	-0.5	106	104	-2	40	44	+4	371	395	+2
147361	F-47	W.F.	6/23/51	--	43.0	43.0	0.0	13.7	13.4	-0.3	107	102	-5	40	35	-5	395[a]	371	-2
147362	F-48	W.F.	6/27/51	--	42.0	42.3	+0.3	13.6	13.3	-0.3	112	102	-10	38	36	-2	366[a]	381	+1
147426	F-49	W.F.	7/ 3/51	--	42.1	42.7	+0.6	14.2	14.2	0.0	105	99	-6	41	38	-3	398[a]	415	+1
147427	F-50	W.F.	7/ 9/51	--	44.1	43.9	-0.2	14.0	13.9	-0.1	110	104	-6	41	36	-5	387[a]	411	+2
147428	F-51	W.F.	7/10/51	--	44.0	44.4	+0.4	14.3	14.1	-0.2	111	105	-6	43	38	-5	416[a]	423	+
147429	F-52	W.F.	7/17/51	--	42.6	43.2	+0.6	13.8	13.5	-0.3	111	108	-3	39	35	-4	408[a]	389	-1
147484	F-53	W.F.	7/20/51	--	43.7	43.7	0.0	14.4	13.8	-0.6	112	107	-5	44	35	-9	418[a]	397	-2
147485	F-54	W.F.	7/20/51	--	43.7	43.9	+0.2	14.7	13.9	-0.8	108	107	-1	41	36	-5	417[a]	428	+1
Current Mill Average:					43.2	43.3	+0.1	14.0	13.7	-0.3	109	104	-5	41	37	-4	397	401	+

TABLE XXVI

Mill G--42-lb. Linerboard

147144	G-356	WFL	6/25/51	1	43.0	43.0	0.0	14.0	13.7	-0.3	99	99	0	35	34	-1	346[a]	307	-3
147145	G-357	WFL	6/25/51	1	42.6	42.5	-0.1	14.7	14.4	-0.3	97	95	-2	34	34	0	342[a]	315	-2
147176	G-358	WFL	7/ 2/51	1	43.6	43.7	+0.1	14.3	13.5	-0.8	106	105	-1	33	35	+2	337[a]	315	-2
147178	G-359	WFL	7/ 2/51	1	42.9	42.8	-0.1	13.9	13.5	-0.4	104	106	+2	34	34	0	325	297	-2
147321	G-360	WFL	7/12/51	1	42.0	42.1	+0.1	14.4	13.8	-0.6	102	100	-2	35	33	-2	334[a]	303	-3
147322	G-361	WFL	7/12/51	1	43.4	43.1	-0.3	12.9	12.9	0.0	110	101	-9	34	34	0	337	310	-2
147530	G-362	WFL	7/25/51	1	40.6	41.0	+0.4	14.0	13.5	-0.5	106	105	-1	32	32	0	329[a]	279	-5
147531	G-363	WFL	7/25/51	1	41.8	42.2	+0.4	13.8	13.3	-0.5	108	103	-5	32	33	+1	335[a]	293	-4
Current Mill Average:					42.5	42.6	+0.1	14.0	13.6	-0.4	104	102	-2	34	34	0	336	303	-3

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXVII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

Basis Weight, lb.			Caliper, points			Brusting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
												In			Across		
IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill H--42-lb. Linerboard																	
42.8	43.7	+0.9	13.1	13.2	+0.1	100	104	+4	34	35	+1	378[a]	351	-27	416[a]	391	-25
42.9	43.7	+0.8	12.9	13.1	+0.2	102	105	+3	33	36	+3	353	340	-13	388[a]	373	-15
43.5	43.9	+0.4	12.9	13.2	+0.3	103	105	+2	34	36	+2	359	352	-7	407[a]	397	-10
42.6	43.7	+1.1	13.6	13.2	-0.4	99	106	+7	33	35	+2	367	341	-26	388[a]	382	-6
42.4	43.8	+1.4	12.9	13.1	+0.2	106	105	-1	33	32	-1	371[a]	345	-26	402[a]	394	-8
42.0	43.2	+1.2	13.3	13.2	-0.1	95	105	+10	34	33	-1	376[a]	320	-56	390[a]	367	-23
42.3	44.0	+1.7	13.2	13.6	+0.4	103	104	+1	36	34	-2	369	365	-4	410[a]	408	-2
42.3	43.1	+0.8	11.9	11.7	-0.2	103	103	0	33	32	-1	351	333	-18	367[a]	369	+2
42.6	43.6	+1.0	13.0	13.0	0.0	101	105	+4	34	34	0	365	343	-22	396	385	-11

ings for one or more specimens which tore beyond the 3/8-inch limit.

" data are calculated from the totals of the individual readings.

TABLE XXVII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Brusting Strength, p.s.i. gage			G. E. Puncture, units			Elmen		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	In Mill	Di
Mill H--42-lb. Linerboard																			
147208	H-259	WF1S	6/ 6/51	2	42.8	43.7	+0.9	13.1	13.2	+0.1	100	104	+4	34	35	+1	378[a]	351	-2
147209	H-260	WF1S	6/ 7/51	2	42.9	43.7	+0.8	12.9	13.1	+0.2	102	105	+3	33	36	+3	353	340	-1
147210	H-261	WF1S	6/11/51	2	43.5	43.9	+0.4	12.9	13.2	+0.3	103	105	+2	34	36	+2	359	352	-
147211	H-262	WF1S	6/12/51	2	42.6	43.7	+1.1	13.6	13.2	-0.4	99	106	+7	33	35	+2	367	341	-2
147533	H-263	WF1S	6/18/51	2	42.4	43.8	+1.4	12.9	13.1	+0.2	106	105	-1	33	32	-1	371[a]	345	-2
147534	H-264	WF1S	6/19/51	2	42.0	43.2	+1.2	13.3	13.2	-0.1	95	105	+10	34	33	-1	376[a]	320	-5
147535	H-265	WF1S	6/29/51	2	42.3	44.0	+1.7	13.2	13.6	+0.4	103	104	+1	36	34	-2	369	365	-
147536	H-266	WF1S	6/30/51	2	42.3	43.1	+0.8	11.9	11.7	-0.2	103	103	0	33	32	-1	351	333	-1
Current Mill Average:					42.6	43.6	+1.0	13.0	13.0	0.0	101	105	+4	34	34	0	365	343	-2

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXVIII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

h. o.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
													In			Across		
	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill I--42-lb. Linerboard																		
	42.3	42.0	-0.3	13.8	13.6	-0.2	101	105	+4	31	30	-1	339[a]	357	+18	374[a]	410	+36
	42.5	42.8	+0.3	12.9	13.1	+0.2	102	109	+7	31	31	0	319[a]	359	+40	375[a]	399	+24
	42.5	42.2	-0.3	13.3	13.0	-0.3	102	105	+3	31	30	-1	319	345	+26	365[a]	389	+24
	42.9	42.1	-0.8	13.2	12.9	-0.3	106	110	+4	32	29	-3	313	343	+30	380[a]	395	+15
	44.1	43.3	-0.8	13.3	13.0	-0.3	106	108	+2	33	30	-3	339[a]	357	+18	389[a]	409	+20
	42.9	42.5	-0.4	13.3	13.1	-0.2	104	107	+3	32	30	-2	326	352	+26	376	401	+25

TABLE XXIX

Mill J--42-lb. Linerboard																		
	42.1	42.8	+0.7	13.8	13.7	-0.1	92	91	-1	33	36	+3	355[a]	395	+40	361[a]	409	+48
	42.9	43.4	+0.5	13.8	13.8	0.0	94	91	-3	34	36	+2	366[a]	389	+23	389[a]	402	+13
	42.9	43.7	+0.8	13.1	13.0	-0.1	102	98	-4	32	34	+2	357[a]	377	+20	378[a]	394	+16
	43.0	43.6	+0.6	13.3	13.1	-0.2	98	95	-3	34	35	+1	369[a]	382	+13	364[a]	397	+33
	42.7	43.5	+0.8	13.4	13.0	-0.4	103	96	-7	32	32	0	355[a]	373	+18	356[a]	391	+35
	42.9	43.6	+0.7	13.2	12.9	-0.3	105	99	-6	31	33	+2	363[a]	375	+12	373[a]	398	+25
	42.8	43.4	+0.6	13.4	13.3	-0.1	99	95	-4	33	34	+1	361	382	+21	370	399	+29

dings for one or more specimens which tore beyond the 3/8-inch limit.

e" data are calculated from the totals of the individual readings.

TABLE XXVIII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb. IPC	Basis Weight, lb. Mill	Basis Weight, lb. Diff.	Caliper, points IPC	Caliper, points Mill	Caliper, points Diff.	Bursting Strength, p.s.i. gage IPC	Bursting Strength, p.s.i. gage Mill	Bursting Strength, p.s.i. gage Diff.	G. E. Puncture, units IPC	G. E. Puncture, units Mill	G. E. Puncture, units Diff.	Elme IPC	Elme In Mill	Elme I
Mill I--42-lb. Linerboard																			
147363	I-184	WF1S	6/16/51	1	42.3	42.0	-0.3	13.8	13.6	-0.2	101	105	+4	31	30	-1	339[c]	357	+
147424	I-185	WF1S	7/17/51	1	42.5	42.8	+0.3	12.9	13.1	+0.2	102	109	+7	31	31	0	319[a]	359	+
147538	I-186	WF1S	7/23/51	1	42.5	42.2	-0.3	13.3	13.0	-0.3	102	105	+3	31	30	-1	319	345	+
147539	I-187	WF1S	7/25/51	1	42.9	42.1	-0.8	13.2	12.9	-0.3	106	110	+4	32	29	-3	313	343	+
147541	I-188	WF1S	7/27/51	1	44.1	43.3	-0.8	13.3	13.0	-0.3	106	108	+2	33	30	-3	339[a]	357	+
Current Mill Average:					42.9	42.5	-0.4	13.3	13.1	-0.2	104	107	+3	32	30	-2	326	352	+

TABLE XXIX

Mill J--42-lb. Linerboard																			
147281	J-283	B.F.	6/30/51	1	42.1	42.8	+0.7	13.8	13.7	-0.1	92	91	-1	33	36	+3	355[a]	395	+
147282	J-284	B.F.	6/30/51	1	42.9	43.4	+0.5	13.8	13.8	0.0	94	91	-3	34	36	+2	366[c]	389	+
147411	J-285	B.F.	7/ 9/51	1	42.9	43.7	+0.8	13.1	13.0	-0.1	102	98	-4	32	34	+2	357[a]	377	+
147412	J-286	B.F.	7/ 9/51	1	43.0	43.6	+0.6	13.3	13.1	-0.2	98	95	-3	34	35	+1	369[a]	382	+
147413	J-287	B.F.	7/15/51	1	42.7	43.5	+0.8	13.4	13.0	-0.4	103	96	-7	32	32	0	355[a]	373	+
147414	J-288	B.F.	7/16/51	1	42.9	43.6	+0.7	13.2	12.9	-0.3	105	99	-6	31	33	+2	363[a]	375	+
Current Mill Average:					42.8	43.4	+0.6	13.4	13.3	-0.1	99	95	-4	33	34	+1	361	382	+

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXX

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
													In			Across		
	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill K--42-lb. Linerboard																		
7	42.2	43.2	+1.0	12.5	12.4	-0.1	95	101	+6	36			347[a]	391	+44	400[a]	430	+30
	42.2	43.2	+1.0	12.5	12.4	-0.1	95	101	+6	36			347	391	+44	400	430	+30

TABLE XXXI

Mill L--42-lb. Linerboard																		
1	42.6	42.3	-0.3	13.7	14.1	+0.4	98	106	+8	35			365[a]	364	-1	411[a]	386	-25
	42.6	42.3	-0.3	13.7	14.1	+0.4	98	106	+8	35			365	364	-1	411	386	-25

readings for one or more specimens which tore beyond the 3/8-inch limit.

rage" data are calculated from the totals of the individual readings.

TABLE XXX

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb. IPC	Basis Weight, lb. Mill	Basis Weight, lb. Diff.	Caliper, points IPC	Caliper, points Mill	Caliper, points Diff.	Bursting Strength, p.s.i. gage IPC	Bursting Strength, p.s.i. gage Mill	Bursting Strength, p.s.i. gage Diff.	G. E. Puncture, units IPC	G. E. Puncture, units Mill	G. E. Puncture, units Diff.	E In IPC	E In Mill	E In Di
										Mill K--42-lb. Linerboard									
147483	K-1		7/20/51	7	42.2	43.2	+1.0	12.5	12.4	-0.1	95	101	+6	36			347[a]	391	+
Current Mill Average:					42.2	43.2	+1.0	12.5	12.4	-0.1	95	101	+6	36			347	391	+

TABLE XXXI

Mill L--42-lb. Linerboard

147277	L-28		6/22/51	1	42.6	42.3	-0.3	13.7	14.1	+0.4	98	106	+8	35			365[a]	364	-
Current Mill Average					42.6	42.3	-0.3	13.7	14.1	+0.4	98	106	+8	35			365	364	-

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXXII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

Mch. No.		Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet In			Elmendorf Tear, g./sheet Across		
		IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
								Mill M--42-lb. Linerboard											
1	2	42.9	42.8	-0.1	13.4	13.0	-0.4	102	98	-4	36	32	-4	410[a]	418	+8	408[a]	435	+27
1	2	43.3	43.1	-0.2	15.4	15.0	-0.4	97	100	+3	38	33	-5	404[a]	397	-7	451[a]	458	+7
1	2	43.5	43.4	-0.1	15.8	14.9	-0.9	107	95	-12	41	36	-5	391[a]	437	+46	434[a]	474	+40
1	2	42.6	42.8	+0.2	13.8	12.8	-1.0	98	99	+1	40	33	-7	383[a]	401	+18	415[a]	428	+13
1	2	42.5	43.1	+0.6	13.2	12.7	-0.5	113	101	-12	36	33	-3	392	408	+16	409[a]	448	+39
1	2	42.3	42.6	+0.3	13.3	12.9	-0.4	105	99	- 6	34	32	-2	379[a]	392	+13	411[a]	425	+14
1	2	43.8	43.3	-0.5	13.9	13.3	-0.6	106	100	- 6	37	33	-4	401[a]	393	-8	405[a]	407	+2
		44.1	43.8	-0.3	14.7	14.1	-0.6	103	93	-10	41	36	-5	431[a]	507	+76	443[a]	510	+67
1	2	42.0	42.4	+0.4	13.4	12.9	-0.5	107	99	-8	37	34	-3	387	397	+10	412[a]	433	+21
1	2	42.8	42.9	+0.1	13.5	13.1	-0.4	105	101	-4	37	32	-5	389[a]	406	+17	437[a]	437	0
		43.0	43.0	0.0	14.1	13.5	-0.6	104	99	-5	38	33	-5	397	416	+19	423	445	+22

TABLE XXXIII

Mill E--44/46-lb. Drum Linerboard

51	1	47.5	48.0	+0.5	14.1	13.6	-0.5	106	103	-3	37	40	+3	457[a]	444	-13	390[a]	393	+3
51	1	46.6	46.1	-0.5	14.0	13.3	-0.7	105	98	-7	35	38	+3	441[a]	425	-16	391[a]	403	+12
51	1	43.5	43.7	+0.2	13.5	13.2	-0.3	105	98	-7	33	38	+5	389[a]	434	+45	377[a]	420	+43
51	1	43.7	45.0	+1.3	13.2	12.6	-0.6	102	103	+1	34	38	+4	433[a]	459	+26	363	434	+71
51	1	48.4	47.9	-0.5	13.7	13.1	-0.6	109	109	0	37	39	+2	453[a]	471	+18	395[a]	427	+32
		46.0	46.1	+0.1	13.7	13.2	-0.5	105	102	-3	35	39	+4	434	447	+13	383	415	+32

e readings for one or more specimens which tore beyond the 3/8-inch limit.

average" data are calculated from the totals of the individual readings.

TABLE XXXII

SUMMARY OF INDIVIDUAL TEST LOTS--JULY 1 THROUGH 31, 1951 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendor g./sh In		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill M--42-lb. Linerboard																			
147124	M-11	W.	6/25/51	2	42.9	42.8	-0.1	13.4	13.0	-0.4	102	98	-4	36	32	-4	410[a]	418	+8
147125	M-12	D.	6/26/51	2	43.3	43.1	-0.2	15.4	15.0	-0.4	97	100	+3	38	33	-5	404[a]	397	-7
147253	M-13	D.	7/ 2/51	2	43.5	43.4	-0.1	15.8	14.9	-0.9	107	95	-12	41	36	-5	391[a]	437	+46
147278	M-14	W.	7/ 7/51	2	42.6	42.8	+0.2	13.8	12.8	-1.0	98	99	+1	40	33	-7	383[a]	401	+18
147415	M-15	W.	7/ 9/51	2	42.5	43.1	+0.6	13.2	12.7	-0.5	113	101	-12	36	33	-3	392	408	+16
147364	M-16	W.	7/14/51	2	42.3	42.6	+0.3	13.3	12.9	-0.4	105	99	- 6	34	32	-2	379[a]	392	+13
147425	M-17	W.	7/15/51	2	43.8	43.3	-0.5	13.9	13.3	-0.6	106	100	- 6	37	33	-4	401[a]	393	-8
147416	M-18				44.1	43.8	-0.3	14.7	14.1	-0.6	103	93	-10	41	36	-5	431[a]	507	+76
147528	M-19	W.	7/22/51	2	42.0	42.4	+0.4	13.4	12.9	-0.5	107	99	-8	37	34	-3	387	397	+10
147529	M-20	W.	7/23/51	2	42.8	42.9	+0.1	13.5	13.1	-0.4	105	101	-4	37	32	-5	389[a]	406	+17
Current Mill Average:					43.0	43.0	0.0	14.1	13.5	-0.6	104	99	-5	38	33	-5	397	416	+19

TABLE XXXIII

Mill E--44/46-lb. Drum Linerboard

147317	E-258	W.F.	7/ 9/51	1	47.5	48.0	+0.5	14.1	13.6	-0.5	106	103	-3	37	40	+3	457[a]	444	-13
147318	E-259	W.F.	7/12/51	1	46.6	46.1	-0.5	14.0	13.3	-0.7	105	98	-7	35	38	+3	441[a]	425	-16
147419	E-260	-	7/17/51	1	43.5	43.7	+0.2	13.5	13.2	-0.3	105	98	-7	33	38	+5	389[a]	434	+45
147476	E-261	-	7/19/51	1	43.7	45.0	+1.3	13.2	12.6	-0.6	102	103	+1	34	38	+4	433[a]	459	+26
147537	E-262	-	7/26/51	1	48.4	47.9	-0.5	13.7	13.1	-0.6	109	109	0	37	39	+2	453[a]	471	+18
Current Mill Average:					46.0	46.1	+0.1	13.7	13.2	-0.5	105	102	-3	35	39	+4	434	447	+13

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.